California MEDICINE

JUNE 1959

SUBTOTAL GASTRIC RESECTION—An Appraisal of a Means of Treatment of Benign Peptic Ulceration of the Stomach and Duodenum, Edwin G. Clausen, M.D., and Robert J. Jake, M.D., Oakland 407

PRIVILEGED COMMUNICATIONS—Physician-Patient Confidences in California, Howard Hassard, San Francisco 411

THE WORK OF AN Rh COMMITTEE—Experiences in a Private General Hospital, Bruce B. Rolf, M.D., Los Angeles 419

VISUALIZATION OF THE BILIARY TRACT—Preoperative, Operative and Postoperative Radiologic Investigation, C. Rollins Hanlon, M.D., St. Louis, Missouri, and C. Allen Wall, M.D., San Francisco 422

PERIODIC MEDICAL EXAMINATIONS—Disease Detection and Health Promotion, Rodney R. Beard, M.D., San Francisco 426

NONSURGICAL TREATMENT OF CONVERGENT STRABISMUS, Robert L. Tour, M.D., San Francisco 429

SURGICAL TREATMENT OF CONVERGENT STRABISMUS, Floyd M. Bond, M.D., San Diego 433

ELECTROMYOGRAPHY IN STRABISMUS, Edward Tamler, M.D., Arthur Jampolsky, M.D., and Elwin Marg, Ph.D., San Francisco 437

CASE REPORTS:

Cardiac Arrest Through Volition, C. M. McClure, M.D., Lindsay 440

Acute Renal Failure Manifesting as Water- and Salt-Losing Insufficiency, Aaron J. Fink, M.D., Mountain View 441

CALIFORNIA MEDICAL ASSOCIATION 448

C.P.S. Medical Care Plan for "Over 65" 448

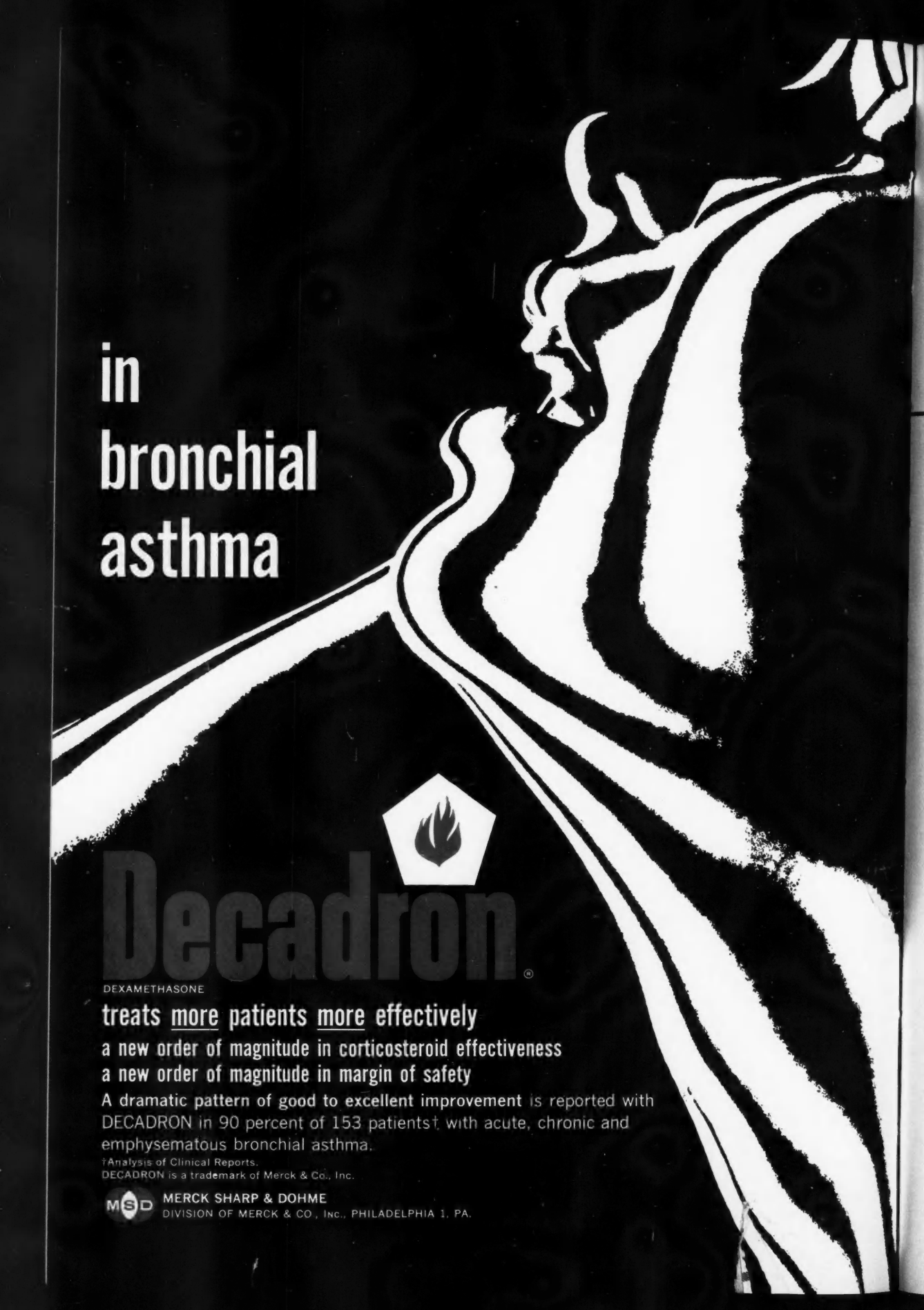
Council Meeting Minutes, 448th Meeting, April 11, 1959 450

EDITORIAL, 445 • WOMAN'S AUXILIARY, 458 • NEWS AND NOTES, 459
BOOK REVIEWS, 463 • VOLUME INDEX, 465

C.M.A. 89th Annual Meeting, Los Angeles, February 21 to 24, 1960

OFFICIAL JOURNAL
OF THE CALIFORNIA MEDICAL ASSOCIATION

LUME 90 NUMBER 6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California MEDICINE

OFFICIAL JOURNAL OF THE CALIFORNIA MEDICAL ASSOCIATION

Volume 90 JUNE 1959 Number 6

Subtotal Gastric Resection

An Appraisal of a Means of Treatment of Benign Peptic Ulceration of the Stomach and Duodenum

EDWIN G. CLAUSEN, *M.D.*, and ROBERT J. JAKE, *M.D.*, Oakland

• **In a series of 400 cases of subtotal gastric resection for the treatment of benign ulceration of the stomach and duodenum, the mortality, morbidity and recurrence rate was acceptably low. Fifty-six per cent of the patients had a perfect result, 38 per cent satisfactory, and 6 per cent unsatisfactory. However, the postoperative nutritional status was sufficiently interfered with in a number of patients whose preoperative weight was subnormal that the routine adoption of 75 per cent gastric resection must be questioned. Vagotomy with either pyloroplasty or partial resection may prove to be the most valuable procedure for patients of this type. In properly selected patients, however, gastric resection is a rewarding procedure for both patient and surgeon.**

THE MOST COMMONLY EMPLOYED surgical procedure for benign peptic ulceration of the stomach and duodenum is subtotal gastric resection. Since the results of this procedure are often not completely satisfactory, vagotomy with an emptying procedure, or combined with hemigastrectomy, is now being used more frequently. The ideal operation is one which would result in low mortality and recurrence rates and a minimum of sequelae. An analysis of a series of 400 patients operated upon by the senior author from 1946 to 1958 has been made in order to appraise the results of subtotal gastric resection.

The location of the ulcers is shown in Table 1. All the gastric ulcers were benign and the gastrojejunal ulcers were treated by subtotal gastric resection only. Thirty per cent of the patients were women. Indications for operative treatment were long-established symptoms, such as chronic pain, hemorrhage (uncontrolled or recurrent), obstruction, repeated perforations, and, in the case of gastric ulcers, possible malignant change. In many instances the indications for operation were combined. The duration of symptoms in most instances was 10 to 20 years except in patients with gastric ulcerations. In general the best results occurred in patients

From the Department of Surgery, University of California School of Medicine, San Francisco 22.

Chairman's Address: Presented before the Section on General Surgery at the 88th Annual Session of the California Medical Association, San Francisco, February 22 to 25, 1959.

TABLE 1.—*Data on 400 Cases of Subtotal Gastrectomy for Benign Ulceration of the Stomach and Duodenum*

	No. of Patients	Per Cent
Location of ulcer:		
Duodenal	289	75.25
Gastric	89	22.25
Gastric and duodenal	7	1.75
Gastrojejunal	15	3.75
Sex:		
Male	280	70
Female	120	30

TABLE 2.—Operative Procedure Employed in 400 Cases of Benign Ulceration of the Stomach and Duodenum

	No. of Patients	Per Cent
Subtotal Gastric Resection with:		
Anterior gastrojejunostomy	262	65.5
Posterior gastrojejunostomy	56	14
Gastroduodenostomy	82	20.5
Cholecystectomy	10	2.5
Antral exclusion	9	2.25

TABLE 3.—Length of Stay in Hospital for Patients Operated Upon for Benign Gastric or Duodenal Ulceration

	No. of Patients	Per Cent
7 days or less	152	38
8 days or less	262	65.5
10 days or less	318	79.5

TABLE 4.—Complications in 400 Cases in Which Operation Was Done for Gastric or Duodenal Ulceration

	Cases
Abdominal pain—26 cases (6.3 per cent):	
Duodenal stump leakage	2
Postoperative bleeding	9
Wound dehiscence	6
Partial stomal obstruction	3
Wound infection	2
Partial loop obstruction	1
Small bowel obstruction	1
Common duct injury	1
Pancreatic fistula	1
Extra-abdominal—44 (11 per cent):	
Atelectasis	27
Cystitis	7
Pulmonary embolus	2
Cardiac decompensation	2
Cerebral vascular accident	1
Fever of undetermined origin	5

with a long history of symptoms. Only 15 patients (3.7 per cent) were operated upon for emergency treatment of bleeding. No resection was done at the time of operation for a perforated ulcer.

The type of operative procedure is shown in Table 2. More recently we have preferred anterior gastroenterostomy to posterior gastroenterostomy. A gastroduodenostomy was done when feasible but no attempt was made to compromise on the amount of stomach removed. A Billroth I procedure was used in 72 patients, 31 of whom had gastric ulcers. Early in the series a 60 per cent resection was done while in the past five years a 70 to 75 per cent resection was done. Antral exclusion, done in nine early cases due to the hazardous operative condition of the duodenum, is no longer employed. Concomitant cholecystectomy was done in ten cases (2.5 per cent). Multiple procedures were discouraged but were employed occasionally in ideal circumstances.

Antibiotics were used prophylactically early in the series, but only therapeutically in the past five years. The complications apparently were not influenced by the use of antibiotics prophylactically. The number of postoperative hospital days is shown in Table 3 (79.5 per cent of the patients were in hospital ten days or less). Patients without complications were usually ready for discharge on the seventh postoperative day.

Four patients died postoperatively. Two of these deaths were due to anesthesia, one of them occurring after spinal anesthesia, hypotension and anoxia, and the other after the use of Anectine (succinylcholine chloride) and resultant irreversible respiratory paralysis. Of the other two deaths one was owing to postoperative hemorrhage, wound dehiscence and cardiac failure and one to peritonitis resulting from an unrecognized leak of the duodenal stump.

Postoperative abdominal and extra-abdominal complications are shown in Table 4. The most serious intra-abdominal complication was leakage of the duodenal stump. Even if this condition is recognized, the mortality is high. The use of a duodenal catheter in substitution for duodenal closure has been advocated, but we have not used this procedure. When a pronounced inflammatory process is found involving the duodenum and head of the pancreas, the surgeon cannot help feeling (except in uncontrolled bleeding) that his choice of procedure or of time for the operation was at fault. Intensive nonsurgical treatment at the peak of the patient's symptoms often will bring about subsidence of this inflammatory process. Furthermore, an alternate procedure such as vagotomy with pyloroplasty or gastroenterostomy may best be employed when the inflammatory process of the duodenum makes resection hazardous.

Other complications such as stomal leaks and obstruction were not a problem in this group of patients. It was not our experience that postoperative hemorrhage was more likely in patients who bled preoperatively. Other complications were infrequent. Wound dehiscence can occasionally be predicted in obese, muscular patients or in patients with preoperative chronic pulmonary problems. We have discontinued the use of nasogastric suction and have noted a distinct decrease in pulmonary complications without any untoward intra-abdominal complications. Application of proper surgical principles at the time of operation and close postoperative surveillance have reduced the complications in "good risk" patients to an acceptable minimum.

The recurrence of an ulcer may be difficult to ascertain and clinical impressions must be resorted to. Roentgenographic visualization of a recurrent ulcer has not been very successful. Patients may bleed asymptomatically on one or two occasions only. Symptoms suggesting ulcer frequently subside after problems of emotional stress are treated. Some

TABLE 5.—*Results as Observed in 292 of 400 Patients Who Had Subtotal Gastric Resection for Benign Ulceration of the Stomach or Duodenum*

	No. of Patients	Per Cent
Perfect	164	56
Satisfactory	113	39
Unsatisfactory	15	5
Proved recurrence	9	
Other	6	

digestive complaints may be eliminated by the discovery and treatment of an unrelated disease. There were nine patients (3.1 per cent) with proved recurrent ulcers and three with asymptomatic bleeding (Table 5). Four of the recurrences were apparent within 12 months of the resection. There have been no recurrences in this series after three years although we are aware that they may occur at any time. Two of the recurrences were in patients who had an antral exclusion. Nine such operations were done. One patient who had bled postoperatively asymptomatically had a Billroth I procedure. The remaining recurrences were following a Billroth II procedure. There has not been any recurrence to date in those who had a 75 per cent resection.

Just as the recurrence rate may be difficult to ascertain, the long term results may likewise be difficult to evaluate. As time passes, the results of the operation will improve, probably because the patient learns to adjust to the idiosyncrasies of his disease. It has been our experience that if patients are carefully questioned, most of them will at some time shortly after operation mention some symptoms of the "dumping syndrome." Most of these patients soon learn that they are unable to take sweets, and a few that they cannot eat dairy products. Only one patient in this series was incapacitated because of the dumping syndrome. This patient did fairly well for two years after operation, but following a coronary occlusion and severe emotional stress he was unable to work because of nutritional changes secondary to the dumping syndrome. He did not have anemia and the volume of blood was normal. This patient had a Billroth I anastomosis. The incidence of dumping was essentially the same for the patients in the Billroth I and II groups. No attempt has been made to narrow the stoma in any of these cases.

The postoperative nutritional status of the patient may be disturbing, particularly in women. Some 12 per cent of the patients in this series were unable to regain or maintain their weight at a satisfactory level. An attempt to assess the merit of a procedure based on the ability of a patient to regain ideal weight seems illogical, since many normal people may never reach their ideal weight. As the surgeon surveys the preoperative weight and dietary habits of these patients, he can usually predict those who will have a nutritional problem postoperatively. Since these patients have experienced a reduction in caloric intake and have a relatively inefficient gastrointestinal tract, the surgeon should not be surprised to find that they fail to gain weight. Patients who eat well and have difficulty with excessive weight do not, as a rule, have any nutritional problems postoperatively. Those who are underweight despite a high caloric "ulcer diet" can hardly expect to regain their ideal weight postoperatively. Our experience has been that a patient's eating habits and bodily build have more influence in determining the postoperative nutritional status than the amount of stomach resected. Some patients who were overweight assumed a desirable weight postoperatively. Many whose weight is below the ideal accept this level although women are less likely to accept a weight loss below the preoperative level. Although a high gastric resection reduces the incidence of recurrence its routine use in underweight patients seems undesirable.

Based on a follow-up of 73 per cent of the patients in this series, 164 (56 per cent) were able to eat everything, a normal amount, and their weight was ideal or above (Table 5). One hundred twelve (38 per cent) were satisfied with the operation but had some food idiosyncrasies or their weight was below their desired level, and in six instances the patients stated that they wished they had not been operated upon. Among these six were one with uncontrolled dumping, two in whom the pathologic change was minimal and hence the operation ill advised, and three with emotional problems which would preclude a satisfactory result with any operative procedure. One patient who did well for four years was then subjected to great emotional stress and developed an incapacitating postpyramidal hypoglycemia. Improvement followed dietary management. As previously mentioned, there were nine proved recurrences and three unproved. It was our experience that any follow-up other than direct questioning proved to be misleading. Many patients who claimed to be in perfect health could not eat sweets and had other minor complaints. On the other hand a patient who said he had a poor result might be an alcoholic or perhaps be suffering from an unrelated illness. We found it difficult to appraise the entire series satisfactorily since the individual response was so variable. Patients who had bleeding as the chief indication for operation and in whom pain was not the predominant factor, were not as enthusiastic about the results of surgical treatment as were those with severe pain or obstruction. Patients with minimal pathologic change observed at operation, despite the array of symptoms, were likely to have more complaints postoperatively. We did not do extensive resection on patients of this type.

DISCUSSION

An appraisal of the treatment of peptic ulcer of the stomach and duodenum by subtotal gastric resection shows that the mortality and morbidity was acceptably low. The recurrence rate can be lowered further by a high 75 per cent resection and the result would be more satisfactory. Although the over-all late results have been satisfactory, nutritional disturbances occurred often enough that the advisability of a routine 75 per cent resection is doubtful. The use of vagotomy with an emptying procedure may eventually prove to be the better procedure. To date, vagotomy and gastrojejunostomy has not proved to be superior to subtotal gastrectomy. Vagotomy with pyloroplasty is a simple procedure and the results to date are encouraging. Partial gastrectomy with vagotomy is the most appealing procedure, but the mortality and morbidity associated with it may tend to limit its advantages.

We believe that each procedure should be selected individually to treat a specific patient. In patients whose weight has never been a problem (except in abundance) a high subtotal gastric resection will usually give an acceptable result. For patients who are underweight, vagotomy with pyloroplasty may be the most promising procedure. In cases in which the local condition of the duodenum precludes satisfactory pyloroplasty or the stomach is large and atonic and does not empty properly, partial resection with vagotomy would seem indicated. Patients who are emotionally unstable probably will not do well regardless of procedure; in fact a high gastric resection makes them susceptible to many postoperative complaints. Vagotomy with an emptying procedure or resection should not be done unless the surgeon is absolutely confident of the completeness of the vagotomy, a challenge which he will occasionally encounter. We are unable to determine preoperatively which patients are most likely to have a recurrence. In patients whose nutrition was poor (in the absence of obstruction) before operation, extensive resection cured the ulcer, but subsequent nutrition was poor, a phenomenon which has led us to adopt a more conservative attitude. In such circumstances we are inclined to do a vagotomy with pyloroplasty.

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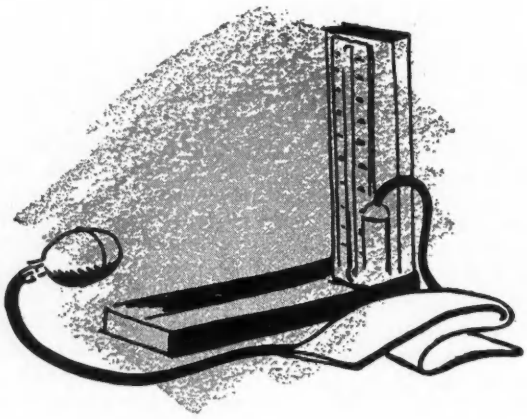

Privileged Communications

Physician-Patient Confidences in California

HOWARD HASSARD, San Francisco
Peart, Baraty & Hassard
General Counsel, California Medical Association

ONE OF THE OLDEST and most respected statements of an ethical code is the Oath of Hippocrates. Section 9 of the Code of Medical Ethics adopted by the American Medical Association, is a modern restatement of that part of the Hippocratic Oath relating to professional confidence. It reads:

> *"A physician may not reveal the confidence entrusted to him in the course of his medical attendance, or the deficiencies he may observe in the character of his patients, unless he is required to do so by law, or unless it becomes necessary in order to protect the welfare of the community."*

Writers and philosophers have extolled the physicians of their time not only for ministering to the sick but for guarding the secrets of their fellow man.

Communications between physician and patient, lawyer and client, husband and wife, minister and penitent are described by courts and legal writers as confidential communications. The law grants to them certain privileges. Two general situations exist. The regular relationship between physician and patient is governed by what may be termed "Rule of Confidence." When a matter is litigated before a court (or its equivalent), the public good is said to require that necessary information must be produced; however, certain exceptions are provided and one of these relates to privileged communications between a physician and a patient. This problem will be discussed under the title, "The Rule of Privilege."

RULE OF CONFIDENCE

The knowledge received by a physician in his official capacity is given with the implied agreement that such knowledge will not be revealed to others. It has been called an entrusted secret. This trust is binding in conscience and in law. The reasons are:

(a) An implied contract exists and a violation is breach of faith, and

(b) The revelation would injure the common good since people would lose confidence and would not feel free to consult.

Professional confidence includes everything of a secret nature concerning the patient's health which the physician learns from him during the performance of professional duties. It should include all information about himself and others which the patient tells to the physician to clarify his case and all knowledge of defects or ailments which the physician acquires while rendering medical services. It binds not only the physician making the examination, but also any physician who is brought into consultation.

Wilful violation by a physician of the patient's confidence is an illegal act in California. Section 2379 of the *Business and Professions Code* provides that wilful betrayal of a professional secret constitutes unprofessional conduct, for which the physician's medical certificate may be suspended or revoked. Since the act of revoking or suspending a license of any physician for a wilful breach of the patient's confidence is penal in nature, the provisions for revocation or suspension are certain to be strictly construed. When they are so construed, the physician must be found guilty of a "wilful" betrayal. The word "wilful" implies a deliberate intention for which no reasonable excuse can be given. Proof is usually made by showing some design or purpose on the part of the physician to do injury or secure an advantage. The rule does not apply to harmless disclosure innocently made without objection from the patient whom they concern.[1]

It is not completely settled law, but it is probable that a physician may not only be guilty of unprofessional conduct should he violate the confidence of his patient, but he also might be civilly liable for any actual damages suffered by the patient which were directly caused by the physician's wilful violation of confidence.

Parents and guardians (both natural and those appointed by courts) have a right to share the

AUTHOR'S NOTE: This article has been prepared for the Commission on Professional Welfare of the California Medical Association, in response to Resolution No. 31 adopted by the Association's House of Delegates in May 1958, directing the Commission on Professional Welfare ". . . to undertake a complete study of all phases of the confidential nature of the physician-patient relationship. . . ."

This article undertakes primarily to review the *legal* aspects of this problem. In its preparation valuable assistance was furnished by Doctor Arthur A. Kirchner, chairman of the Commission on Professional Welfare, who acted as "medical reviewer." In addition, I am greatly indebted to Mr. William M. Whelan, director of Special Services for the C.M.A. who not only reviewed preliminary drafts but contributed materially to the reorganization and orderly presentation of the various facets of the law in this field. Finally, Mr. G. William Filley, of our office, spent countless hours in legal research and in preparation of the working drafts.

knowledge which a physician acquires by virtue of his medical examination which they should know to provide for the health, welfare and best interests of the child or ward. A minor having reached the age of reason owns his own thoughts and can make personal revelations to a family physician which the physician should not communicate to the parents without the child's consent or unless it is necessary to do so for the child's own best interests in a matter of serious consequence.

Professional secrets may be revealed where there is just cause—that is, where to keep the secret injures either the common good or the good of some individual. Some writers have described situations of four types in which a secret may be revealed:

(a) *The common good demands it be revealed.* Public health requirements that persons having contagious diseases be appropriately reported illustrate this exception.

(b) *Grave injury would unjustly come to a third party.* An illustration would be a situation in which a physician discovered a communicable disease in a person who is about to be married or to become the traveling companion of another.

(c) *Grave harm would come to the person confiding the secret if the confidence were strictly kept.* For example, a case in which revealing the patient's illness to others is necessary in order that he receive proper treatment.

(d) *Grave harm would come to the physician.* For example, a situation in which a physician might be convicted of a crime if he did not reveal a secret.

It has been held that a physician did not violate the rule of confidence when he revealed to a patient's spouse that the patient was suffering from a venereal disease.[2] The court stated that to prevent spread of the disease it was legally proper to communicate to one who it was reasonable to suppose might otherwise be exposed to such disease. Good faith, absence of malice on the part of the defendant and disclosure only to a close member of the family are permissible. Thus, social benefit cancels out the obligation of secrecy.

When a revelation is made, the physician should assure himself it is made to the person entitled to it, such as the parent or guardian. A phone call should not be used if the physician cannot recognize the voice of the parent. Seldom if ever should one use a telegram or a letter since he could not be sure into whose hands such communications might fall. The method used should be calculated to preserve the confidence in professional secrecy.

Since the physician is obligated to use due diligence in keeping hidden all professional secrets, he must see to it that confidential reports, case histories, correspondence, medical prescriptions and the like regarding his patients are kept in a safe place. He needs to make sure of the trustworthiness of his office assistants.

Required Public Health and Public Policy Disclosures

The laws of California and its municipalities require, in the interest of public health and welfare, that physicians make reports to public officials about patients having certain contagious diseases, wounds or injuries inflicted by one's own acts or by the acts of another, diseases that may endanger third parties (epilepsy, for example), narcotic addiction and the like. The duty to report cases of contagious diseases also applies to those who have come in contact with cases or carriers of contagious diseases.[3] Such legally required disclosures do not violate professional confidence.

Privilege is not an absolute concept. It grew up to facilitate the equitable doctrines of the law. When the public welfare demands it, the concept bends with the situation. Thus, if a physician is questioned in a guardianship hearing for an incompetent, there is no breach of privilege if the physician testifies as to the incompetent's alcoholic habits or his sanity.[4]

Knowledge of Criminal Actions

One of the celebrated miscarriages of justice in this country was the conviction and sentencing of Doctor Samuel A. Mudd, who set the leg of John Wilkes Booth, which had been broken in a jump to the stage of the theater after he had assassinated President Lincoln. Booth fled south to La Plata, Maryland, found Doctor Mudd at his home where his injury was diagnosed and his leg set. It is established that Doctor Mudd did not know that Booth was the assassin although the doctor may have previously met Booth socially.

In California there is no specific duty to report a past or proposed crime (except a physician *must* report patients with injuries caused by violent or criminal acts as required by the Penal Code). It has been held that a person who saw another committing a crime but did not interfere is not under the burden of proving himself innocent.[5] There is no crime of aiding and abetting, punishable as such, in California.[6] Thus, knowledge (without support) of a projected crime evokes no duty upon the citizen, other than moral, to report this information to the proper authorities.

However, it *is* a crime for anyone to advise, encourage or abet a criminal act or to harbor or conceal a criminal. "Conceal" means affirmative aid to the criminal, not mere neglect to notify the police.[7]

Today, particularly in the field of psychiatry, physicians may receive information from a patient concerning either a past or proposed crime. The

principles previously discussed which would justify a physician's making a disclosure of a professional secret, should be used as a guide, *i.e.*, where the common good or the good of some individual would be injured by remaining silent, the physician may voluntarily make a revelation. For example, if a patient admits to being a fugitive, to being blackmailed by a foreign agent, or is known by the physician to be armed and is considered to be dangerous, in the interests of protecting the general welfare of society the physician is justified in making a prompt revelation to the proper authorities.

A threat to kill made in the presence of a physician during a professional attendance is not a professional secret.[8]

The physician should attempt to dissuade the commission of a proposed serious crime. Where a past serious crime is disclosed, a physician might very well advise the patient to consult a clergyman or lawyer to obtain proper advice about what the patient should do to make amends for the crime. If at a later date, a statement is made by the patient in open court that he made a disclosure to a particular physician about his crime, the physician may then properly disclose what advice he gave the patient.

If a physician is called as a witness in a criminal case, he may be required to disclose confidential communications, as California law does not extend the privilege to criminal cases.[9]

Communications between a physician and patient are not considered privileged if they are made in furtherance of criminal purposes. A physician cannot employ the privilege as a screen for the protection of his patient or of himself against prosecution for a crime.

Waiver of Professional Confidence

A life insurance company or a business firm may require a person to submit to a physical examination before issuing a policy of insurance or employing the person. The person who takes such an examination, expressly or by implication grants permission to the examining physician to reveal to the company the results of the examination. The same rule applies in reference to application for disability benefits, pensions and compensation claims, generally. In all such instances, the physician filling out the form supplying the information he obtained in his professional capacity, should assure himself that the patient has waived the obligation of secrecy. If the physician is not sure of the waiver, he should hand the forms to the patient and let him give them to the appropriate party. The medical examination should be reported only in the most general terms. Where the physician finds facts that could seriously discredit a person if disclosed, he might well consider urging the applicant to withdraw his request.

It is well to bear in mind that only the information requested should be given, and no information should be volunteered, since a waiver extends only to the information needed.

It has generally been held that when a patient comes into a physician's office and is examined in the presence of a third person (other than a parent, guardian, necessary nurse or assistant), communications made are not confidential and will not be considered privileged.

Permission to Publish Case Histories

When a patient gives the physician permission to publish a case history of the patient's malady in a medical journal or textbook and it is so published, this will not act as a general waiver permitting further revelation in court or in a nontechnical publication.

THE RULE OF PRIVILEGE

In early Anglo-Saxon law, the physician was compelled to testify in a legal proceeding as any other witness for the reason already noted that justice would only prevail if all facts were disclosed. The courts began to realize that certain exceptions to this rule needed to be made. The Bill of Rights had provided that an Englishman charged with a crime could not be compelled to testify against himself. The welfare of a family and the conception of the oneness of husband and wife gave rise to an exception being made to their disclosures of confidential communication. Professional communications between lawyer and client became "privileged" and not subject to compulsory disclosure. The courts gradually began to express the policy that the confidences between patient and physician should likewise be protected and encouraged for the reasons stated above under "Rule of Confidence." New York passed the first law in the United States establishing a physician-patient privilege, and now in all but 18 of our states similar laws have been enacted.

"Courtroom" privilege runs counter to the basic policy of our legal system that *all* facts shall be disclosed. Hence, legal writers still have gnawing doubts. Zechariah Chafee, Jr., Harvard Law School professor, in an article entitled, "Privileged Communications. Is Justice Served or Obstructed by Closing Doctors' Mouths on the Witness Stand?"[10] said that unrestricted interpretation of the privilege has:

1. Fostered fraudulent claims in the field of personal injury litigation,

2. Permitted unwarranted recovery on insurance policies, and

3. Interfered with the proper determination of mental capacity of decedents where that fact is disputed.

Professor Wigmore's work on the law of evidence is generally considered to be the leading authority on the subject. He has advanced four fundamental conditions that should be established in order for privilege against disclosure of communications between persons standing in a confidential relationship to be granted:

1. The communications must originate in a confidence that they will not be disclosed,

2. This element of confidentiality must be essential to the full and satisfactory maintenance of the relation between the parties.

3. The relation must be one which in the opinion of the community ought to be fostered,

4. The injury that would be done to the relationship by the disclosure must be greater than the help which disclosure would give toward the correct resolution of litigation.

It has been argued that few instances exist in which communications to a physician are wholly confidential. Where facts made known to a physician are well known to intimates, neighbors, friends, employer, insurance carrier and others, it can hardly be contended that such facts are secret. The privilege has not existed in England or in the New England States. It must be conceded, therefore, that people do seek medical advice even where the privilege doesn't exist.

For these reasons, we must expect the courts to examine closely all situations in order to assure that recognition of the privilege will not do injustice through suppression of material facts. To put it another way, where medical testimony is absolutely necessary for learning the truth, the law will probably require disclosure unless it meets the four conditions laid down by Wigmore.

Privilege in California

The California *Code of Civil Procedure,* Sec. 1881, provides that a licensed physician cannot, without the consent of his patient, be examined in a *civil* action, as to any information acquired in attending the patient which was necessary to enable the physician to prescribe or act for the patient; however, such physician may in matters concerning the estate of a deceased person testify as to the mental condition of the decedent and in so testifying may disclose information acquired by him concerning the deceased. The right to waive the privilege is that of the patient and in the event of death of the patient the privilege may be waived by the executor or the administrator of his estate or the surviving spouse of the deceased or the children of the deceased or if they are minors, by their guardian.

This privilege is developing gradually in those states where the legislature has not granted a privilege. The courts by judicial decision have created a privilege. A recent 1952 Illinois case[11] has established the right of a psychiatrist in a non-criminal case to refuse to reveal communications of his patient in the absence of a waiver by or permission from the patient.

Waiver of the Privilege by the Patient

The privilege of silence in a court of law concerning the communications from his patient is not absolute in California, for it applies only in civil cases. The privilege is that of the patient or his legal representative and can be waived by the patient or his representative. A patient may expressly waive the privilege by calling upon the physician to testify in court. Under the provisions of Section 1881 of the California *Code of Civil Procedure,* the privilege is expressly withheld from actions for personal injury or for wrongful death, and it is specifically provided that either before or after probate, upon the contest of any will, the attending physician may testify to the mental condition of the deceased patient and may disclose information acquired by him in his professional capacity. The testimony of the physician may be given freely when the privilege is waived by the patient or withheld by statute. Waiver need not be expressed but may be *implied* by the action or inaction of the patient. If the patient is present in court and does not object to the proposed testimony of the physician, this is a proper waiver of the privilege. "Consent by a patient to the giving of testimony by his physician may be expressly and impliedly given."[12]

Privilege may also be waived in other ways. It is waived, for example, whenever the person entitled to the protection of the statute or the rule voluntarily makes public matters of which a disclosure without his consent would be forbidden.[13] A waiver may also be implied where conduct of the party asserting the privilege has placed the adverse party in such a position with respect to the evidence that it would be unfair to permit retention of the privilege.[14] Where the disclosure is necessary for the protection of the physician or the prevention of an injustice to him, the rule of privilege is also inapplicable. When the physician is being sued by the patient for malpractice, for example, the patient is deemed to have waived his privilege and the physician is no longer bound by the duty of confidence.

Duration of Waiver

The patient may only waive as to prior matters and this waiver does not act as a waiver for privileged communications made thereafter. Thus, the privilege may only be waived to the date of the waiver and any professional confidences thereafter are subject to a new privilege.

This law recognizes what may be termed *limited waivers.* It would behoove the physician thus to de-

termine carefully just what has been waived and to what extent before he risks a violation of the privilege.

To Whom the Privilege Extends

The privilege applies to the patient's relationship only as to licensed physicians. Thus, a Christian Science practitioner has no privilege, for he is not a licensed physician. Nor is there a privilege as to a receptionist, nurse, dentist, medical technician, druggist or prescription clerk, chiropodist, chiropractor or veterinarian. A California case[15] determined that a student intern or nurse is not in the protected physician class and information given them, for the purpose of establishing a hospital record, is not privileged. The intern was acting as an agent for the hospital for the purpose of completing its records and was not acting for the physician. An intern or nurse would, however, be privileged when acting as an agent for an attending physician.

Since the statute conferring the privilege refers to "licensed physicians" an unlicensed practitioner is not within the statute. It has been determined that a licensed physician is within the statute although he has never complied procedurally and registered his license with the County Clerk as is further required by law.

Nonprivileged Areas

A physician is not prohibited by the privilege from disclosing facts not acquired in his capacity as a physician and which are plain to the observation of anyone and demand no professional knowledge. He may testify as to the fact of the physician-patient relationship, to the fact of his attendance on the patient, to the fact of his treatment of the patient, to the fact that the patient was ill, to the duration of his treatment, and to the number of days of the patient's visits.

Who Determines What Is and What Is Not Privileged Information

When the testimony of a physician is sought regarding his professional services, the patient seeking to exclude the testimony on the ground of privilege must assert the privilege if it is to be granted by the court. The patient must establish that the testimony sought was acquired by the physician while the relationship of physician and patient existed and that it was necessary to enable the physician to render professional services. The physician and patient may testify about the status of the relationship. The trial judge makes the legal determination as to whether the information sought is privileged, and in determining this question he may request the physician to divulge information to him out of the presence of the jury. The trial judge has broad discretion in this matter and generally his decision is conclusive. The disclosing of information to a judge in these circumstances is not a violation of professional confidence by the physician.

Psychiatric Examination in Criminal Cases

In California and many other states, communications between a physician and patient are not privileged in criminal cases. But this raises a question in law that has not yet been definitely answered. The ingredients of the question are as follows: In some cases, the law requires a psychiatric examination of a defendant accused of crime. The value of the psychiatrist's report may be impaired if the defendant withholds information. The defendant has a constitutional right to refrain from testifying against himself. From these factors the question arises: Does he lose this right by making admissions against his interest to a psychiatrist who may be called upon to testify?

Rulings by courts on these questions are not in agreement. In Arkansas, a psychiatrist has been permitted to testify to a confession made to him by a defendant.[16] However, in a District of Columbia case[17] it was held that it was error for the lower court to have required the staff psychiatrist at a mental hospital in the District of Columbia to reveal the admissions against interest that were made to him by the defendant. The court placed great emphasis upon the fact that a psychiatrist needs to have a patient's confidence for access to "his entire self, his dreams, his fantasies, his sins, and his shame." The court used this quotation from Guttmacher and Weihofen's book *Psychiatry and the Law* (1952). This decision construed and applied a recent federal statute which reads as follows:

"No statement made by the accused in the course of any examination into sanity or mental competency provided for by this section, whether the examination shall be with or without consent of the accused, shall be admitted in evidence against the accused on the issue of guilt in any criminal case."

Fryer, in *Selected Writings on Evidence and Trial* (1957) at page 259, said:

"The Model Penal Code of the American Law Institute permits testimony by a psychiatrist in any case where mental condition is properly an issue but to safeguard the defendant's rights and to make possible the feeling of confidence essential for effective psychiatric diagnosis or treatment the defendant's statements made for this purpose may not be put in evidence on any other issue."

The author quoted with approval the Taylor case and the federal statute.

Georgia recently has expressly provided by statute that communications between psychiatrist and patient shall be privileged. Massachusetts has recently enacted the following statute:

"In the trial of an indictment or complaint for any crime, no statement made by a defendant therein subjected to psychiatric examination pursuant to sections one hundred or one hundred A of chapter one hundred and twenty-three for the purposes of such examination or treatment shall be admissible in evidence against him on any issue other than that of his mental condition, nor shall it be admissible in evidence against him on that issue if such statement constitutes a confession of guilt of the crime charged."[18]

In California, it would appear that if an attorney engages a psychiatrist to examine a defendant whom he is representing, the admissions made by the defendant to the psychiatrist would be privileged by virtue of the lawyer-client relationship. The physician is acting as an agent of the lawyer.[19]

In no event will representatives of the state be allowed to employ the relationship of physician and patient in a deliberate attempt to obtain a confession out of the defendant's own mouth. This principle is illustrated by a New York case[20] in which the defendant was charged with the murder of his parents. The district attorney sent a physician-psychiatrist to interview him in a police station. The defendant was not informed of the purpose of the visit nor of the fact that the conversation was being recorded on a tape recorder. The physician made deceptive offers of friendship and help, his assurance being given in a pseudoconfidential atmosphere of physician and patient. The court held that representatives of the state may not thus employ a relationship they establish between the doctor and the defendant, which public policy holds privileged, in order to obtain the confession of the defendant without warning. A subsequent confession will be considered as being tainted with illegality also.[21]

Another set of circumstances is that in which a patient who is being treated by a physician is arrested and charged with a crime that may be related to the medical or psychiatric treatments being given. It then might become pertinent at the trial for either the state or the defendant to establish preexisting medical facts relating to mental competency, aberrations and the like. If it should become material to the proof of the crime charged or establishing the criminal intent of the defendant to introduce previous medical facts and admissions, a problem would arise for the physician owing to the defendant's constitutional right not to be a witness against himself. Thus, personal, physical facts in the possession of the physician such as the date of examination or duration of the treatment of the defendant might be introduced, but admissions tending to degrade or incriminate the defendant or knowledge obtained through the use of experimental procedures such as hypnotism might be excluded on constitutional grounds. The previously mentioned New York case involving one Leyra indicates that consideration will be given also to the manner in which the admissions were obtained by the physician.

In California no problem confronts the physician, either in a civil action or in a criminal action, relating to an examination of the defendant made at the request of the defendant's attorney. Where a psychiatric examination of one charged with a crime is required *by the court*, a serious professional and legal problem confronts the physician and the defendant. England has apparently handled somewhat analogous problems by voluntary imposition of genteel considerations. It would appear proper for the attorney for the defendant to request the court to instruct the psychiatrist before he makes his examination that he will not be called upon to reveal admissions of the defendant, on the issue of guilt, without the consent of the defendant. If such a ruling is not granted, the psychiatrist should carefully avoid permitting the defendant to make admissions to him regarding the crime with which he is charged.

Narcotherapy

The use of narcotherapy in criminal cases or otherwise presents some problems. Since a person owns his own thoughts he cannot legally be forced or induced to disclose them. Written permission should be obtained before using narcotherapy. If a recording is to be made, that fact should be agreed on and noted. The confidence of such disclosures should be rigidly observed. When transcripts are made they should be closely guarded and should be destroyed when they have served the purpose for which they were obtained.

RECORDS

Does privilege apply not only to the physician, but to his records as well? The question of whether, in the absence of waiver by the patient, the privilege extends to a medical report, is apparently not one thoroughly settled in law as yet in California. However, there is law to the effect that such records and reports are privileged, and this would seem to be the better view. The problem is raised when the admissibility of a hospital medical record is sought to be prevented on the ground that a hospital record is privileged. In Minnesota an action was filed to recover damages for fatal injuries allegedly suffered by the deceased when his automobile and that of the defendant collided at an intersection; the evidence was conflicting as to whether the cause of death was a blow on the temple inflicted as a result of the collision, or decedent's alleged excessive use of hard liquors for a considerable period of time.[22] It appeared that the decedent died thirty minutes after the accident. It was held that a record of the Mayo

Clinic which decedent entered five months before the accident in question, contained decedent's history, including a statement made by him and recorded in such history, that he drank a pint of whiskey a day, was properly excluded as privileged. In a recent federal case[23] the question was whether a privilege extended to a medical report and was touched upon by the court when the defendant's attorney sought to obtain medical reports which had been prepared by a number of plaintiff's physicians. Defendant sought to submit these reports. The court stated, "We think the documents fell within the privileged statute as interpreted by our decision." Thus the statutory privilege extends not only to information orally given by the patient to the physician, but also to the physician's written records about the patient.

In California, if a patient commences a personal injury suit, he waives his right to secrecy about his medical examination and treatment (as to the injury involved) and this waiver applies also to medical records regarding the injury.

Assuming no waiver, a hospital record which is properly authenticated is admissible to prove nonmedical information about the patient only if there is no disclosure of diagnosis or treatment or comments to that effect by the treating physician. While the cases that have been adjudicated so far have dealt only with the question of privilege as applied to medical reports and hospital records, it may be noted that the physician's office records should also be inadmissible on the basis of their being privileged.

Once a physician is called to the witness stand *by the patient* to be examined concerning the patient's physical condition, the privilege has been waived and the physician may also be required to produce and be examined about any written records which he made about the patient's physical condition.

TYPE OF PROCEEDING

Since in California the privilege statute clearly provides that the physician-patient privilege applies to "civil actions" only, it is interesting to see to what extent the Rule of Privilege has been applied in quasijudicial proceedings and investigations. It applies, of course, in all civil court proceedings whether or not the patient is a party to the action.[24] It has been determined also that the privilege applies to pretrial examination and discovery procedures, to depositions, to contests of wills, to proceedings before bankruptcy or other referees, and to actions of a special kind, such as an action by a physician to recover his fee. Hence, in such actions the physician may testify as to facts of treatment, the value of his services, agreement to pay and the length and number of visits, but he may not reveal, without consent of the patient, the malady or the treatment thereof. Quasijudicial proceedings or investigations may not generally compel revelation of privileged material. These include legislative investigations by federal, state or municipal bodies, proceedings before a grand jury, hearings before tribunals of an admittedly administrative character and proceedings before tribunals of a private rather than a public character, such as those established by fraternal societies.

Thus there are various situations in which the physician may find himself in which he could violate the confidence if he did not know the extent of his duties and rights. The physician could be asked, for example, for information concerning his patient by a private tribunal such as a fraternal benefit society or a union health plan. "Mr. S. has submitted his claim, and we are interested in settling it. Please fill out the submitted forms and return." Would completing these forms violate the confidence even though the physician is attempting to aid Mr. S. to sustain his claim? The answer is that it might unless the physician can show a definite waiver by Mr. S. In the absence of waiver, the physician had better not give information freely to such a body without communicating with Mr. S. to see if he had authorized the completion of the forms. Communication by a phone call is not adequate, for the patient is entitled to see the extent of the forms and what information is sought. It has been held that while fraternal benefit societies are legal and might prescribe their own rules of evidence, they have no right to establish rules contrary to any statute prescribed by the legislature for their guidance and that the statute of privilege is applicable to such proceedings in California. Likewise, health prepayment plans are lawful, but have no right to secure confidential information *except* upon prior consent or request of the patient.

The California Industrial Accident Commission is another body to which a physician must give information regarding a patient who is a claimant before the Commission. In the case of Winthrop vs. IAC[25] the court held that the physician who had examined the claimant and refused to report his findings to the Commission, did so in "the mistaken belief that the law as to privileged communications" permitted him to refuse to testify. The privilege did not apply in this instance, apparently under the theory that the appearance before the IAC was tantamount to the bringing of an action to recover for personal injuries and the privilege was thus deemed waived by the patient.

CONCLUSION

Common sense must be used in determining how to protect the confidence granted and privilege

given. In this field, the law is built upon a framework of overlapping and sometimes conflicting basic policies.

The primary policy is that the courts must be able to compel disclosure of all relevant facts, in order that just decisions may be reached.

To this policy there is an exception in the case of certain confidential relationships, for example those of marriage, religion, law and medicine. To encourage people freely to consult their religious advisor, their lawyer, and their physician, the law has permitted a "privilege" of silence on the part of clergymen, attorney and physician.

In addition to the "privilege" of silence both law and ethics have imposed on physicians an affirmative duty to respect the confidences entrusted to them.

Confidence and privilege are for the benefit of the patient, not the physician. The physician, as such, has no privilege; rather, he has a duty to remain silent. Hence, the privilege is that of the patient, and he has the right to waive it and to command disclosure.

Finally, other policies of the law cut across the rules of confidence and privilege, and when this occurs the duty of silence ceases. Examples are, contagious disease reporting and legally imposed waiver of privilege when a personal injury suit is filed by a patient.

With the rapid growth of health insurance, the instances in which a physician is required to divulge confidential information to a third party have drastically increased. In these cases the patient's economic interests require disclosure. Frequently, his medical interests may call for nondisclosure and hence, a conflict exists.

When a physician is faced with this problem his decision must be made with a clear understanding of the basic fact that confidence and privilege are a right of the patient, and that the patient is the one who must make the decision regarding disclosure or nondisclosure. Neither the physician nor the third party may take away from the patient this legal right.

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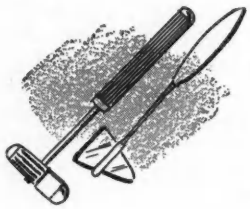

The Work of an Rh Committee

Experiences in a Private General Hospital

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• **An Rh committee was formed at Saint John's Hospital in Santa Monica to provide preadmission consultation on all potential Rh and ABO problems and to maintain a file of information on Rh-negative patients in the delivery room. It is urged that no patient go to the delivery room without the known Rh-ABO type as part of the labor record. All obstetrical patients at the hospital are given "obstetrical information cards" for use as a memorandum on the labor record. A pink card identifies the Rh-negative patient.**

The program keeps the staff "Rh-conscious" and has improved teamwork among the obstetricians, pediatricians, nurses and the laboratory.

THE CONSULTING SERVICES offered by the Rh Committee at Saint John's Hospital have elevated the standard of obstetric care in the Santa Monica area. This is a liaison committee made up of obstetricians, pediatricians and a clinical pathologist, all of whom have a special interest in hemolytic disease of the newborn. A "home-town" study group, it has served to give local physicians a keen appreciation of the significance of hemolytic disease due to Rh and ABO incompatibilities.

In our community several pediatricians lead the way in educating the medical profession about the Rh factor. One of them, Dr. Gilbert Jorgensen[4] in 1949 established a dependable laboratory for Rh problems and offered a consultation service. He distributed printed instructions for the management of both the sensitized and nonsensitized Rh-negative obstetrical patients. He was aided by Dr. Philip Sturgeon,[10] who now independently operates the Rh consulting laboratory. The late Clement Molony[7] soon presented a two-year report from Children's Hospital on exchange transfusion and the usefulness of the direct Coombs test.

Shortly thereafter the author,[8] representing the obstetrical department, presented a paper on the management of the Rh-negative patient to the hospital staff and also to Section on Obstetrics and Gynecology of the California Medical Association. As the general staff members became more "Rh conscious," obstetricians, pediatricians and the hospital pathologist all gave liberally of their time in regular and "curbstone" consultations. Actually an informal Rh committee had been functioning for several years before one was organized. These individual efforts stimulated the staff to anticipate hemolytic disease and to plan for treatment. For several years the infants most affected by Rh incompatibility were transferred promptly to Children's Hospital, where often blood was ready upon admission because preparations had been made in advance. A program such as this should be established by the staff of every hospital which does not have facilities for exchange transfusion.

Presented before the Section on Obstetrics and Gynecology at the 88th Annual Session of the California Medical Association, San Francisco, February 22 to 25, 1959.

The narrative might end at this point, except for the fact that not all physicians were able to follow this pattern in every case. As our obstetrical department enlarged, we noted an increasing number of unanticipated cases of jaundice and hemolytic disease. As exchange transfusions were first attempted, sometimes there were delays longer than it would have taken to transfer the infant to another hospital. It became apparent that a more efficient plan was needed.

An Rh committee was formed in 1955 to expedite teamwork among obstetrician, pediatrician, laboratory and delivery room and nursery staffs.

The committee* consists of three pediatricians, two obstetricians and a clinical pathologist. Since lack of communication can disrupt the best laid plans, one of the initial steps was directed to developing a complete file for the labor room of current obstetrical patients whose babies would be potential candidates for hemolytic disease. All obstetricians were requested to submit a report to the Rh committee no later than the 36th week of pregnancy on the following cases:

1. All Rh-negative mothers.

2. All gravid mothers known to be previously sensitized by any other blood factor.

A carbon triplicate form for Rh history has been used to supply the following information to the

*The original committee consisted of: Gilbert Jorgensen, M.D., A. Borden Polson, M.D.,† Nathan Smith, M.D.,‡ Blake Watson, M.D., Bruce B. Rolf, M.D., George Hummer, M.D.§ Replaced in present committee by: †Harvey Shipper, M.D., ‡Nomie Shore, M.D., §Peter V. Van Schoonhoven, M.D.

committee: Name of patient, obstetrician and attending pediatrician; patient's age and expected date of confinement; obstetrical history in detail and report of outcome with special reference to anemia, icterus or stillbirth; Rh and ABO type on both patient and husband, and genotype on husband if the type is known; one antibody titer at least at 34th or 35th week of gestation; previous transfusion history and remarks. There is also space for recommendations by the Rh committee.

The completed forms are reviewed once or twice a week by a member of the Rh committee, who adds his recommendation. Of the triplicate, one copy is returned promptly to the obstetrician; the second, which is for the patient's hospital record, is filed with the delivery room; and the third copy is retained by the committee for the purpose of periodic review.

The following is an outline of the procedures and the rules followed in dealing with the obstetrical cases described above:

I. *Routine tests on the above designated mothers include:*
   1. ABO and Rh typing.
   2. At least one test for antibody titer during the last 5 to 6 weeks of gestation.

II. *Routine tests on infants of anticipated nonsensitized mothers (on cord blood or from baby):*
   1. Rh type.
   2. Direct Coombs test.
   3. Hemoglobin determination.

III. *Routine tests on anticipated sensitized babies:*
   1. Rh and ABO typing.
   2. Direct Coombs test.
   3. Hemoglobin determination.
   4. Serum bilirubin (micrograms).
   5. Blood smear examination.
   6. Reticulocyte count.

IV. *Jaundice of the newborn:*

The nursery staff has been instructed to notify the pediatrician if jaundice appears in the first 24 hours and also to order the following laboratory tests:

1. Rh and ABO typing.
2. Coombs test.
3. Hemoglobin determination.
4. Serum bilirubin.

The same procedure is recommended for babies showing moderate to severe jaundice at any time during the neonatal period without exception. A reduced laboratory fee is offered for the entire group of tests.

The committee urges physicians to record the ABO typing as well as the Rh on the labor record of all obstetrical patients as an aid in the early evaluation of jaundice of the newborn.

Transfusion Team

Exchange transfusions may be performed only by physicians who have been approved by the Rh committee. Advance notice of the impending delivery should be given to the transfusionist so that he may confirm that the blood bank is prepared to supply his needs.

Laboratory Service

The described program could not have been established without the full cooperation of the director of the laboratory and his staff. Although Saint John's Hospital has not maintained a full time night laboratory technician, a technician on night call has responded to any call for routine Coombs test on infants from Rh-negative mothers. This has become an established procedure in spite of the more lenient initial recommendation that cord blood from nonsensitized cases might be held until 7 a.m., provided that reports were completed by 9 a.m.

Obstetrical Information Cards

In addition, we have borrowed the obstetrical information card from our neighboring institution, Santa Monica Hospital, where its use was initiated by the author as a simple alternate method of informing the delivery room staff not only of Rh incompatibilities, but also of any obstetrical complications. This is a wallet-sized identification card which is given to all patients during pregnancy, and which the patient presents to the labor room nurse on admission to the hospital. On it is recorded the Rh and ABO type, antibody titer, age, parity, preference of analgesia and anesthesia, name of pediatrician and obstetrician and space for pertinent remarks. A white card is used for Rh-positive and a pink card for Rh-negative patients. The card is attached to the patient's labor record and is a conspicuous reminder of the Rh-ABO type as well as of any anticipated complications. In essence, it is a miniature prenatal record for the benefit of the nurses and the physicians, and it is especially helpful if the patient need be delivered by another obstetrician unfamiliar with her history.

This card serves an additional purpose by warning the patient, "*Do not eat solid food even in early labor*" as a safeguard against aspiration during anesthesia.

The idea of the patient's carrying a blood identification card is not new, nor is the use of a simple memorandum for complicated cases. However, the combination of these features with the pink colored

card to identify the Rh-negative patient has made the obstetrical information card a successful means of communicating vital information at the time of labor.

If obstetricians were infallible, in submitting prenatal records to the labor room by the 36th week of gestation, the obstetrical information card would hardly be necessary.

RESULTS

All cases of icterus of the newborn delivered in 1958 at Saint John's Hospital were reviewed by the Rh committee and reported as follows:

Erythroblastosis due to Rh	33	
Erythroblastosis due to ABO	36	69
Icterus—Negative Coombs test result (genetically potential Rh incompatibility)	9	
Icterus—Negative Coombs test result (neither Rh nor ABO incompatibility)	9	18
		87
Stillbirths due to erythroblastosis		5
Total live births		3,905

Twenty-five of the 33 infants with erythroblastosis due to Rh incompatibility received one or more exchange transfusions, but only five of the 36 in whom it was due to ABO incompatibility required transfusion. Of the 36 infants in the ABO group 21 had a positive result of direct Coombs test and 15 had a negative result. This affirms the opinion that close observation of all newborn infants for jaundice by an alert nursing staff is essential for early recognition in nearly half of the cases of hemolytic disease due to ABO incompatibility. There was no mortality or kernicterus among the infants treated by exchange transfusion. The only neonatal death was that of a severely affected 2700-gram infant who died a few minutes following emergency Cesarean section which was done for placental abruptio and fetal distress at thirty-seven and a half weeks' gestation. The advisability of early or premature induction had been considered, in light of a history of four consecutive stillbirths following the birth of the first child. However, this was not done because the expected date of confinement was uncertain.

DISCUSSION

Every general hospital accepting obstetrical patients should offer around-the-clock laboratory service for the prompt diagnosis or exclusion of hemolytic disease. The obstetrician should have a feasible plan to transfer an affected infant within an hour after birth to an adequate facility should an exchange transfusion not be immediately available, or arrange for the patient to be delivered where such a facility is available.[9]

Early induction of labor or Cesarean section is not recommended in cases of isoimmunization except when repeated stillbirths have occurred, and then only after studied consultation. Preadmission consultation with the transfusionist in every case of known Rh-sensitization is desirable. Should elective pre-term induction of labor be contemplated, it is advantageous to select a date favorable to the pediatrician and to plan the time of delivery during the daylight hours when a full staff of trained personnel is available. As an additional advantage of preadmission consultation, the transfusionist may confirm in advance that there is a supply available of comparatively fresh Rh-negative blood which is compatible with the serum of the infant's mother.

The Rh committee currently is reviewing the unclassified cases of icterus neonatorum for etiological factors.

It is now evident that vitamin K in large doses may produce hyperbilirubinemia, kernicterus and even death in premature infants.[1,5] Since placental transmission of vitamin K has been established,[3,6] its routine administration to mothers in labor to protect the infant from possible hypoprothrombinemia should be reevaluated by every obstetrician. Its use certainly should be avoided if labor is premature or delivery imminent.[2] Adequate protection of the infant can be safely accomplished without risk of bilirubinemia,[2,3] by giving 1 mg. of vitamin K parenterally at birth.

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Visualization of the Biliary Tract

Preoperative, Operative and Postoperative Radiologic Investigation

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• **Modern operative treatment of diseases of the bile passages requires the use of x-ray visualization of the biliary tract before, after and during operation. Nearly every surgeon uses x-ray study of the biliary tract before operation and it is widespread practice to carry out such study after operations in which a tube has been placed in the bile passages. However, there is a remarkable aversion to operative cholangiography.**

The usual reasons for avoiding operative cholangiography are unfamiliarity, inertia, concern over complications of the technique, and the feeling that it is unnecessary or wasteful of surgeon's time and patient's money. Yet the results of operative cholangiograms compare favorably with those obtained with the more customary x-ray studies of the bile ducts carried out after operation, at a time when the information gained is much less valuable in avoiding additional operations and in contributing to a smooth and rapid convalescence.

DISEASE OF THE extrahepatic biliary tract is so common and its diagnosis so important that every physician should recognize the various clinical forms of the disease and appreciate the place of radiologic visualization in its management. Although not every patient with extrahepatic biliary disease is a candidate for operation, it has been customary to consider radiologic investigation under the categories of preoperative, operative and postoperative roentgenography.

The traditional management of a patient with cholecystitis and cholelithiasis would start with preoperative investigation by oral cholecystography. During the operation itself, operative cholangiography might be used and in the postoperative period visualization of the extrahepatic biliary tract could be accomplished by cholangiography before removal of a T-tube in the common duct. Recently these divisions of radiologic investigation according to their relation to operation have been rendered less clear cut by the use of intravenous cholangiography for preoperative and postoperative biliary tract visualization and the use of newer oral cholecystographic methods in competition with intravenous cholangiography for postoperative investigation. The use of percutaneous puncture of the liver or gallbladder (a form of operative cholangiography) for preoperative visualization of the extrahepatic biliary system is mentioned only to condemn it.

It is the purpose of this presentation to discuss the various methods for roentgen visualization of the extrahepatic biliary tree with certain clinical observations on the advantages and disadvantages of each technique.

Oral Cholecystography

This 35-year-old technique was originally employed to demonstrate the presence of pathologic change in the gallbladder, especially calculous cholecystitis. Although Graham and Cole in their original comments on the method suggested the probability of improved agents, these were slow in being developed and for many years the original tetraiodophenolphthalein (Iodeikon®) was employed despite a relatively high incidence of adverse gastrointestinal reactions. This agent was gradually supplanted by iodoalphionic acid (Priodax®) which was much better tolerated but is inferior to more modern agents such as iodophenoic acid (Teridax®) and iodopanoic acid (Telepaque®). As with all iodine-containing compounds, certain side reactions may occur even with these newer agents, but such reactions are uncommon and are rarely dangerous.

With the standard dose of iodopanoic acid, it is quite common to visualize the extrahepatic biliary ducts together with the gallbladder. Even if the gallbladder is not visualized, as in patients with obstruction of the cystic duct, the extrahepatic bile ducts may be shown some 12 hours after oral administration, particularly if a double dose of the agent is given.

This high-contrast property of the newer agents may be helpful in distinguishing between liver disease and gallbladder disease. In liver disease, failure to visualize the extrahepatic biliary tracts may be occasioned by failure of excretion. In gallbladder disease, however, the radiopaque material is prevented from entering the gallbladder even though it is excreted in adequate concentration by the liver.

Guest Speaker's Address presented before the Section on General Surgery at the 88th Annual Meeting of the California Medical Association, February 22 to 25, 1959, San Francisco.

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In one series of 67 patients with nonvisualizing gallbladder, the common bile duct was seen radiologically in over 70 per cent.

For years it has been customary in the use of oral cholecystography to withhold fat in the diet on the day preceding the examination. In patients who for a long time have been on a rigid fat-free diet, the gallbladder occasionally fails to concentrate the radiopaque agent because it is already filled with inspissated bile at the time it is ingested. It was observed that in certain patients whose gallbladder had been stimulated to empty by the customary fatty meal after the initial roentgenogram, the gallbladder would be visualized as an accidental finding during other abdominal roentgenograms 12 to 24 hours later. Thus there is considerable logic in the practice of requesting patients to take some fat-containing food on the day preceding the oral cholecystography in order to empty the gallbladder and have it fill with bile containing the ingested radiopaque agent.

The older agents for oral cholecystography not infrequently failed to delineate the gallbladder even when there was no pathological change in that organ. This led to the practice of repeating an unsuccessful test, using a double dose of the agent. This practice is occasionally employed even with the newer agents such as iodopanoic acid. Within the past two years, a further extension of this trend has led to administration of 1 gm. of iodopanoic acid after each meal for as long as four to seven days, with the patient maintained during this period on a fat-free diet. Paregoric is given frequently to control occasionally troublesome diarrhea. In such circumstances, the visualization of radiolucent stones may be achieved not only in the gallbladder, but in the common bile duct as well. In vitro and in vivo studies have shown that certain biliary calculi may concentrate the cholecystographic medium in layers of biliverdin at the periphery of the stone, giving a ring-like appearance which stands out prominently. More commonly, in our experience, the stones are demonstrated by negative shadows in the duct. This may occur even in the presence of jaundice.

Further laboratory studies and wider clinical application of this technique of repeated dosage of the oral cholecystographic agents will permit more precise final evaluation. It is possible at this time to say that the method offers considerable promise in the appraisal of that troublesome group of patients with persistent symptoms after cholecystectomy. In some instances, the technique is more effective than intravenous cholangiography in demonstrating retained common duct stones after operation.

While it is not the purpose of this presentation to discuss fine points of radiologic technique, it should be stressed that one must always be sure that the tablets have been ingested and that there has not been vomiting or diarrhea. In the absence of severe depression of hepatic function, failure to visualize the gallbladder with iodopanoic acid indicates disease of the gallbladder. Although the degree of gallbladder disease cannot be predicted from the density of the shadow, a faintly visualized gallbladder suggests strongly the presence of cholecystitis. It is worth remembering that the use of iodopanoic acid by the standard technique may give shadows of such density that radiopaque stones can be missed unless adequate scout films are taken.

Intravenous Cholangiography

Although the widespread use of intravenous agents for contrast visualization of the biliary tree did not begin until 1953, it should be remembered that early in the history of cholecystography the one available agent, tetraiodophenolphthalein, was not infrequently given intravenously when oral administration was ineffectual or poorly tolerated. In 1953, sodium iodipamide (Cholografin®, Biligrafin®) was introduced by various European investigators. Even with careful slow injection, the incidence of adverse reactions varies from 10 to 20 per cent. These generally consist of gastrointestinal symptoms such as nausea and vomiting or allergic manifestations such as urticaria, itching, and occasionally bronchospasm. Serious reactions, however, are rare.

The main utility of intravenous cholangiography lies in investigation of patients with persistent symptoms after cholecystectomy. In most of these patients, the common duct can be demonstrated fairly clearly although in half of such patients, the important lower end of the duct is not demonstrated, which limits sharply the value of the method. Moreover, with severe impairment of hepatic function or with serum bilirubin above 5 mg. per 100 cc. the likelihood of visualization of the common duct is small.

The density of the shadow with serial films may be used as an indicator of obstruction in the common bile duct. If the density of the shadow after intravenous cholangiography is greater at two hours than at any preceding time, this may indicate significant blockage of the common duct. The nature of this obstruction remains nonspecific until exploration distinguishes between calculi in the duct and obstruction at the sphincter due to fibrosis or neoplasm.

Although intravenous cholangiography may give valuable information after failure of biliary visualization by the usual oral cholecystographic techniques, it is not to be considered as a substitute for oral cholecystography. The incidence of unpleasant

side reactions is definitely higher with the intravenous than with the oral technique and, as previously noted, the newer oral methods may demonstrate otherwise invisible radiolucent calculi that are missed even with intravenous cholangiography.

It is essential to introduce a word of caution against relying too heavily on radiography alone in diagnosis of biliary disease. Frequently the clinical symptoms are clearly diagnostic of gallbladder disease and additional laboratory studies serve only to harass the patient and increase his expenses. Moreover, such studies may dangerously delay an operation which is urgently needed.

A case in point is that of a young woman recently seen with the classical symptoms of empyema of the gallbladder. She was treated nonoperatively with antibiotics for a long period when cholecystostomy would have relieved the symptoms and doubtless favorably affected the septicemia resulting from empyema. Thereafter she was submitted to oral cholecystography with single and double dosage and intravenous cholangiography. None gave visualization of the biliary system. Finally, some two months after studies were begun, a successful demonstration of nonopaque stones in the gallbladder was achieved by administration of iodopanoic acid for four days. Three days after this diagnostic triumph, there was violent exacerbation of the inflammatory process in the gallbladder, which was palpable, and the patient was transferred to the surgical service for emergency cholecystostomy. It seems unnecessary to labor the moral of this story, which exemplifies the overemphasis of diagnosis to the exclusion of the patient's best interests.

Operative Cholangiography

Operative cholangiography is generally discussed in surgical journals, but there is merit in outlining its usefulness and indications before a wider medical audience. Although operative cholangiography has been in use for at least 20 years, many surgeons are still reluctant to employ it. Failure to use the method is based on a variety of objections which may be valid in some instances but are generally an indication of inertia. It is remarkable that many surgeons who avoid the use of cholangiography during operation will employ it to demonstrate the bile ducts several days or weeks after operation at a time when correction of abnormalities will ordinarily require a second laparotomy. In contrast to this, the demonstration of abnormalities at the time of initial laparotomy permits correction of them with minimal morbidity and lessens the expense and trouble of prolonged stay in hospital.

It has been said that the use of operative cholangiography is unnecessary if one is skilled in operative exploration of the common bile duct. While the degree of skill obviously varies from surgeon to surgeon, there is no one so skilled that he does not occasionally fail to find a stone which subsequently manifests its presence in the common duct. Even the most skillful probing and irrigation may fail to detect or bring into view stones that are present in the intrahepatic radicles of the biliary ductal system.

Operative cholangiography has been said to be dangerous because it gives assurance which is not justified by the results obtained. The answer to this objection lies in the fact that operative cholangiography is not a substitute for common duct exploration, but is rather a supplementary technique of examination which may be carried out after the most meticulous exploration, which will sometimes fail to reveal stones. Exploration of the common duct by manipulative methods and roentgenographic methods are complementary, not each exclusive of the other.

Operative cholangiography has been attacked because it is troublesome to do and because there are both false negative and false positive cholangiograms in a certain proportion of cases. The trouble and expense of operative cholangiography have been somewhat overrated and the additional expense is trivial when compared with the catastrophic hospital bills incident to surgical treatment of retained common duct stones. It is apparent that technical difficulties are always a possibility, but these may be solved if one has in view the desirable goal of avoiding even one retained common duct stone. For best results, the cooperation of the radiologist is obviously essential; however, operative cholangiography even under technical and consultative difficulties is more helpful than no cholangiography at all.

The most significant and cogent reason for using operative cholangiography lies in the demonstration on our own material that 8 per cent of the patients who were judged by all other available methods to have extrahepatic biliary ducts free of stones, were found by operative cholangiography to have stones in the biliary ducts. In these patients, the responsible surgeon had exerted diligent efforts to detect stones by all practical means short of operative cholangiography. Except for operative cholangiography, stones would have been left behind. This would not necessarily have occasioned symptoms since patients with stones in the common duct may be fortunate enough to pass them with negligible clinical disturbance. Moreover, it is possible that a nonoperative regimen designed to cause passage of common duct stones may be successful. One can scarcely escape the conclusion that in a significant number of patients the use of operative cholangiography gives information which is not available in any other way and that this information is beneficial to the surgeon and to the patient.

One form of operative cholangiography mentioned earlier is the blind percutaneous injection of radiopaque materials into the gallbladder or intrahepatic bile ducts. It is our belief that this is a dangerous and unwarranted practice. We treated surgically four patients with biliary peritonitis or intraperitoneal hemorrhage that resulted from such tests. These four complications occured in a group of 15 patients so tested, and in no instance among the four patients was the diagnosis materially aided by the study. Certain South American observers have reported the use of pneumoperitoneum to delineate the gallbladder so that it may be punctured more readily, but this too seems to be an instance of diagnostic ingenuity exceeding common sense and regard for the patient's safety. In an occasional case of jaundice where radiographic visualization of the ducts is essential and cannot be achieved short of direct injection, this may be safely done by exposure of the gallbladder through a short laparotomy incision under local anesthesia. This is a major diagnostic effort but it has the advantage of direct closure of the puncture wound in the gallbladder and the comfortable realization that the added surgical manipulation has been justified by the diminished risk of biliary peritonitis. In this sense, it is comparable to the conventional postoperative cholangiography through an inlying tube placed in the gallbladder at a formal cholecystostomy.

We have had no personal experience with air contrast cholangiography suggested recently by Bertino and Cole.[1] Their preliminary report based on use in 17 patients indicated only that it was feasible, safe and useful.

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Periodic Medical Examinations

Disease Detection and Health Promotion

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• **The medical examination of persons who have no medical complaints is a procedure that has different purposes than the traditional diagnostic examination. These include not only the detection of incipient disease but the evaluation of the adjustment of the individual to his environment and an assessment of his personal hygiene. It should be concluded by a discussion of what has been found, and by positive, persuasive advice and education which will lead to better health.**

Interest in such work and competence for it are not found in every physician. Physicians who do not want to acquire such competences should recognize the fact and refer such work to others who are prepared to cope with it. Inept, incomplete health examinations disappoint the patient and make the physician uncomfortable; thorough, constructive examination and counseling is satisfying and profitable to both.

ONE OF THE PARADOXES of modern medicine is the widespread advocacy of periodic health examinations and the limited extent to which they are practiced. Although Mock[3] introduced health examinations for industrial employees in 1909 and the American Medical Association as early as 1925 published a manual of procedures for such examinations,[1] they remain unaccepted by a majority of physicians and the great mass of the public. Their importance has been restated by an eminent group of experts representing the leading professional associations of the health field, The Commission on Chronic Illness, as follows:[2]

"All persons should have a careful health examination including selected laboratory tests at appropriate intervals. The medical and dental professions must specify the desirable scope and frequency of this examination, taking into account age, sex and other biosocial factors. Such examinations must then be made practical and realistic and be incorporated in the day-by-day practice of modern medicine and dentistry."

The reasons for the lack of more general acceptance of health examinations lie in misunderstandings of their potential benefits, the applicable methods and the costs involved. In too many instances, those who have advocated them have overstated the benefits which may be derived. On too many occasions, health propagandists have excited the interests and expectations of the public with resultant embarrassment of physicians who did not honestly feel that they could achieve the results which were expected. A striking example of this is the frustration and annoyance felt by the physician who is approached by a person who wants reassurance that he does not have cancer. The physician, knowing too well how difficult it is to detect many internal cancers while they are in an operable stage, is anxious lest a statement that he can find no cancer will be interpreted as a guarantee that none exists. At the same time he knows that anything less than hearty reassurance may provoke anxiety. The physician is likely to be particularly annoyed if the patient expects him to give this reassurance without benefit of x-ray and laboratory examinations.

A more widespread cause of disenchantment for the physician is the experience of performing examinations in military or industrial settings where he observes that, with the methods commonly in use, the proportion of remediable defects which he discovers is discouragingly small for the amount of time spent.

On the side of the public, it has been observed that many persons are reluctant to accept medical examinations even when they are offered free of charge, in circumstances which should give assurance of high quality. "If there is something wrong with me, I don't want to know it," is a fairly common attitude.[2] Among those who have ventured to undergo a health examination, a common complaint is, "The doctor just said I was all right; he really didn't tell me anything."

The effective performance of health examinations can be increased if recognition is given to the fact that there are two essential phases, namely, disease detection and health counseling. Moreover, physicians will approach this work with more satisfaction to themselves and to their patients if they recognize that there are some special techniques which are applicable. The physician should be aware that a satisfactory health examination is not an easy chore,

Presented before the Section on Industrial Medicine and Surgery at the 88th Annual Session of the California Medical Association, San Francisco, February 22 to 25, 1959.

that it is time-consuming, and that the essential laboratory work associated with it is not cheap. The physician must set a high standard and adhere to it. There is no more excuse for 15-minute "physical check-up" than there is for kitchen-table appendectomy or the use of leeches. Patients must be taught that a good health examination is worth a good price, and a poor one worse than none.

Many physicians remain dubious about the value of periodic examination as a means of detecting remediable disease. They urge that public health education should be directed toward convincing people that they should go to a physician promptly when sick, and they protest that periodic examinations tend to deter this, rather than to encourage it. Mainly, they claim that the time and energy invested in examinations of supposedly healthy persons is disproportionate to the benefits derived. Many physicians who have tried diligently to give thorough examinations have been disappointed by the infrequency with which they detect significant abnormalities that can be corrected. Some physicians believe that if there is disease for which one has no specific remedy to offer, the patient is better off to live in ignorance until manifest symptoms make him seek palliation.

A number of studies, reported by Roberts[5] in Hubbard's recent book have shown tangible rewards. As should be expected, there is wide variation in prevalence rates of detectable disease in different segments of the population. From among the disorders which are unequivocally benefited by early detection and treatment, the following partial list can be made:

Kind of Disease	Incidence Range, Various Studies (Per Cent)
Tuberculosis	0.09 to 0.37
Syphilis	0.5 to 12.5
Diabetes—	
Urine sugar tests	0.8 to 2.3
Blood sugar tests	1.3 to 6.7
Glaucoma (persons over age 40)	2.0[4]
Carcinoma—	
Anus, rectum, sigmoid	0.13 to 0.39
Uterine cervix (cytologic smears)	0.33 to 0.71
Rectal and sigmoid polyps and adenomas	3.0 to 17.2
Anemia	3.9 to 16.2

In addition, it is apparent that many neoplasms of the skin or body orifices are benefited by early treatment and are readily detectable. Infections such as amebiasis and hookworm infestation are worth seeking in some population groups.

Although the available means of therapy are not perfectly satisfactory, we are beginning to understand the control of arterial hypertension and know something about the prevention of exacerbation of latent nephritis. The frustrations of attempting to correct already established obesity make most physicians avoid such patients whenever possible. However, the incipient obesity of early middle age can be controlled in many cases.

In persons without complaints or symptoms, it is evident that the medical history cannot play a very important role in the detection of disease. Thoroughness of physical examination and a wide array of laboratory tests have been shown to be more productive.[4] This has led to some rather sharp divisions of opinion and practice. On the one hand are the physicians to whom disease detection is the sole end of periodic examination. On the other are the physicians who see the opportunity in such examinations for influencing the behavior of individuals toward better health practices. For the former group, the physical and laboratory examinations are of greatest importance. For the latter, a very detailed history must also be taken.

The discovery of disease before the patient has become aware of it calls for greater perceptiveness than the diagnosis of manifest illness, although it may not require the same degree of skill in piecing together bits of information. The skills used in detecting a significant abnormality are not exactly the same as those applied in finding the underlying cause of that abnormality. In the first instance, attention is centered on health; in the second, on disease. It is quite possible for the two viewpoints to be held by one physician, although not simultaneously. A number of practitioners are able to shift from one role to the other with ease, but there remain many who can deal only with the identification of causes of recognized illness, and a few who are satisfied to recognize the presence and general nature of abnormalities, leaving definitive diagnosis to others. These differences are unimportant, so long as the physician recognizes his own field of interest and his limitations.

A primary skill in detecting abnormalities is the ability to evaluate the health history. This ability requires knowledge of the broad range of healthy variation in the human species, and perception or understanding of the ability of the individual to feel pain or other symptoms and to express himself. Such understanding of an individual depends much upon knowledge of his background, including his heredity, his childhood family environment and his subsequent life experience. Thus the family history should be more than a listing of causes of death of grandparents, presence or absence of specific diseases in parents, siblings and so on. It should bring out personality characterizations of parents and family associates, and the feelings of the patient about his early home. The developmental, social and vocational histories, and the review of recreational interests, food intake and daily habits all provide clues to the kind of person with whom

one deals. Many of these details are also required as a basis for the discussion of personal hygiene.

In theory, the physical examination of the well person does not differ from that of one with a presenting complaint. Both examinations should aim at a complete description of every accessible part of the body, and of the organism as a whole, including functional characteristics and patterns of behavior. In practice, when examining a person with a presenting complaint, one usually forms some diagnostic impressions from the history. One organ system or body region is suspected as the source of trouble. The physical examination is pointed toward the refinement of these impressions and the confirmation of a diagnosis. Minor deviations which are not part of the main syndrome either are not looked for or are ignored as mere incidentals. Neither the patient nor his physician is likely to be concerned about details of the nose and throat when the complaint is one of acute abdominal pain, nor about the condition of the knee joints when the complaint is headache. In examining the person who has no complaint, it is not often that a significant deviation is obvious. Close attention to detail and systematic thoroughness are necessary to bring out the clues which lead to significant findings.

When one turns to the laboratory, it would seem that every possibly fruitful test that can be done without discomfort or risk to the patient should be applied. In addition, there are procedures that are uncomfortable but not hazardous, and others in which there is some inescapable risk of injury. To a large degree, money factors and the established practices of diagnostic medical practice set the pattern. Blood examination for hemoglobin, a count of erythrocytes or hematocrit determination, a leukocyte count and examination of a stained smear is so widely accepted a part of "a complete examination" as to be mandatory. Similarly, a urine specimen must be tested for protein and sugar, and microscopic examination of the sediment can hardly be neglected. A serological test for syphilis must be done on each initial examination. An x-ray film of the chest completes the minimal list. Beyond these, especially for persons approaching middle age and older, an electrocardiogram and determination of blood cholesterol and sedimentation rate are valuable as base lines for future comparison. Also, a determination of postprandial blood sugar content is useful. A specialized physical examination procedure to be considered is the measurement of intraocular tension or visual fields. In some occupational groups, an audiogram should be thought of.

In the absence of history or physical findings suggestive of trouble, one is hardly justified in more elaborate, expensive, uncomfortable, sometimes risky procedures, such as gastrointestinal x-ray studies, gall bladder visualization and phenolsulphonphthalein excretion tests.

When the examination is completed, and preferably after laboratory data are in hand, the results should be discussed with the patient.

The negative aspects of the physician's report to the patient can be disposed of quite readily. Too often, the physician goes no further. The positive part is advice for the conservation and promotion of health. First, the physician has to list in his own mind all the points of advice that might be pertinent and rank them in importance. He must then decide which of these the patient is prepared to accept, and how many he can undertake at one time. Then he must communicate to the patient what is to be done, why and how.

The range of advice that may be given is very broad. It must include urging additional special laboratory tests or consultation with specialists if inconclusive evidence of disease has been found. If a definite diagnosis of disease is made, treatment must be prescribed or the patient must be referred to another physician. Education concerning diet, exercise, rest, recreation and any of the other elements of hygiene may be required. Recommendations for limitation of activity may have to extend to consideration of a change of occupation. Attitudes toward spouse, children, employer or employees may need discussion.

The physician acting as a health counselor may use oral discussion alone, or may supplement it by various written or graphic materials, including pamphlets available from governmental and voluntary health agencies and from life insurance companies. Individual ingenuity and skill have wide play in these educational methods. It may also be desirable or necessary to give the patient a written summary of advice which he can show to his wife or employer as an aid in putting the recommendations into effect. Such a summary should be neither a clinical report nor merely a certificate of good health.

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Nonsurgical Treatment of Convergent Strabismus

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• **It is generally agreed that surgical treatment of convergent strabismus should be withheld until all other less traumatic approaches have proved ineffectual. There are four categories of nonsurgical treatment.**

One is psychiatric. Too often psychiatric problems in the causation of convergent strabismus are either overlooked or unrecognized.

Another is the proper employment of optical devices. For example, spectacle lenses to eliminate the need for excessive accommodation with its associated convergence excess, and the employment of prisms in the lenses to permit the two eyes to see as a unit even though they may not be properly anatomically oriented.

Another kind of treatment is orthoptics, the use of exercises and rather complex optical equipment in a laboratory to train the patient in coordination between the two eyes.

Treatment with drugs is based on the fact that certain drugs reduce the effort necessary for accommodation (much as eye-glasses do) and therefore lessen the stimulus toward convergence which may possibly tend toward the development of convergent strabismus.

ASSUMING THAT MANY if not most of the underlying principles of the conservative treatment of convergent strabismus are well understood and are in ordinary ophthalmologic practice, I wish particularly to stress two relatively recent trends in nonsurgical management: (1) the use of miotics, and, (2) pleoptics. I would also like to discourage the use of the term *strabismus* in referring to manifest deviations. As Scobee[11] says "... heterotropia brings the manifest deviations into a clearer relationship with their cousin, heterophoria [whereas] *strabismus*, to the uninitiated, sounds as if it had no relationship with the widely known heterophoria." From a more practical standpoint, *esotropia* is much more succinct than *convergent strabismus*, and is most certainly easier to say.

The treatment of esotropia, whether surgical or nonsurgical, should be directed toward some specific goal, and this goal, at least at present, is so-called "functional cure." Acording to Costenbader[5] the end result should include (1) the best possible vision in each eye, (2) the best possible binocular alignment with harmonious movements and (3) the most secure single binocular vision possible. This therapeutic ideal is achieved in only some 10 per cent of patients even under optimal conditions. Some ophthalmologists maintain that a small-angle esotropia with good cosmesis and freedom from heterophoric asthenopia is a more than adequate substitute, but it would seem that this falls short of the delicate interocular balance that nature intended.

There is room for considerable debate as to when one should acknowledge that the nonsurgical treatment appears to have fallen short and operation is in order. Duke-Elder[7] said that "if a case is not practically cured with occlusion (or atropine), spectacles and orthoptic exercises within six months it is usually uneconomic to persevere without surgical intervention." As to prolonged visual training, Javal[9] said that he agreed with von Graefe in that the gain to the individual was not worth the trouble.

The nonsurgical treatment of esotropia can logically be subdivided into four distinct, although interrelated, categories:

1. *Psychiatric.* This approach is based upon the frequent relationship between changes in the degree of tropia, and variations in the emotional status of a given individual. Perhaps the word *psychological* should be substituted for *psychiatric* in view of the more sordid implications of the latter.

2. *Mechanical.* Optical devices worn by the patient to change the direction or intensity of light rays entering the eye are frequently employed—occlusive devices, spherical and cylindrical lenses and prisms, for example.

3. *Sensory.* In this category emphasis is placed on the more central as opposed to the peripheral aspects of tropia. Javal[9] in 1896 stated that squint was primarily a fault of binocular function and could be remedied through the use of the stereoscope. Until recently, sensory treatment—"orthoptics"—has been directed toward binocular function; little attention has been paid to improvement of visual acuity in the deviating eye, except for total or partial occlusion of the unaffected eye. In "pleoptics," primary attention is given to visual improvements in an amblyopic eye, but secondary benefits regarding both position and binocularity also accrue.

4. *Pharmacological.* Treatment with drugs is in essence a mechanical approach to the problem of esotropia, except that the structure or function of

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Presented as part of a Panel Discussion on Strabismus before the Section on Eye at the 88th Annual Session of the California Medical Association, San Francisco, February 22 to 25, 1959.

the eye is altered by the use of drugs rather than by the changes in light-wave pattern that are brought about by lenses of various types.

Psychological Treatment

Most ophthalmologists are aware of the effect of periods of emotional unrest upon the relative position of the visual axes. Too frequently, however, this influence is disregarded in an attempt to reduce the problem to its simplest form and thereby better the chances of a permanent cure. Campion[4] mentioned that such oversimplification may act adversely in certain patients inasmuch as surgical treatment, *per se*, may have much psychotherapeutic value and the danger of overcorrection is therefore great. Conservatism is to be advocated in the presence of a large functional factor.

Mechanical Treatment

The mechanical treatment of esotropia is directed toward the achievement of the best possible visual acuity in each eye and the best possible alignment of the visual axes. Total or partial occlusion of the better, or fixating, eye is employed in an effort to improve vision in the deviating eye. This is done with the aim of equalizing acuity and thus creating a situation in which there is greater likelihood of functional cure.

Since fusional requirements are best met when the retina receives the clearest possible image, full correction of astigmia and myopia should be ordered at the outset. In the case of myopia, no harm and often some benefit will accrue from the elimination of minus power for close work. In dealing with hyperopia, in which visual clarity may exist throughout wide ranges of refractive error, correction is not directed to acuity but to the elimination of the accommodative component of the "near reflex." Full hyperopic correction provides maximal visual acuity with minimal accommodative stimulus. The less the accommodative effort, the less the associated convergence; and the less the convergence, the less the tendency toward esotropia.

The foregoing does not imply that all cases of esotropia are due to uncorrected hyperopia, or conversely that esotropia cannot be present in the absence of hyperopia. As Sheard[12] said, assuming an interpupillary distance of 65 mm., 19.5 prism diopters of convergence must be supplied to maintain single binocular vision at 13 in. (33 cm.) should orthophoria obtain at distance. Inasmuch as the normal AC/A (accommodative convergence/accommodation) ratio is about 4:1, only 4 times 100/33, or approximately 12 prism diopters of convergence, results from the accommodative effort involved. Sheard referred to this disparity as "accommodative exophoria," which is overcome by other stimuli such as fusional convergence. If in a given case orthophoria at distance could be brought about by means of eye-glasses, one might expect to find single binocular vision at near, provided that both fusion and the AC/A ratio were relatively normal. However, should the AC/A ratio be such that much more than average convergence is produced by a given amount of accommodation, the result may be esotropia for near in the face of orthophoria for distance. In such a situation, bifocal lenses are of value because, while they do not alter the basic AC/A ratio, they reduce its effect upon the ultimate relative position of the visual axes.

Perhaps the best known exponent of the use of prisms in the treatment of esotropia is Guibor.[8] He stresses undercorrection of the deviation in order to stimulate fusional amplitude in the divergent direction, which in turn results in lessening of the degree of esotropia. He also emphasizes the proper method for determining the amount of deviation: the Maddox rod should not be used because it stimulates accommodative convergence, and the alternate cover test should not be employed because it measures both tropia and phoria simultaneously.

Sensory Treatment

As previously mentioned, the sensory method of treatment of esotropia has been primarily directed toward binocular function. Orthoptic exercise, as we now know it, consists of active binocular stimulation of corresponding retinal elements. The first step is to eliminate anomalous retinal correspondence, which is quite difficult if the angle of anomaly is small. Next, an attempt is made to overcome suppression of image, the purpose being to reestablish awareness on the part of the patient of any abnormal deviation between the visual axes. Finally, attention is given to improvement of fusional amplitudes so that comfortable binocular vision that records a single image can be maintained in the face of rather wide fluctuations in relative visual direction.

Proper use of orthoptic treatment obviously depends on a rather exact knowledge of just when corresponding retinal points are being stimulated. Further, since the fovea is commonly used as a reference point, it follows that the therapist must ascertain whether there is true foveal fixation or eccentric fixation. It is usually assumed that, when an amblyopic eye takes up fixation it is doing so with its fovea, and measurements are made on the basis of the cover test and/or the corneal light reflex. Considering that eccentric fixation may be of very small degree, these methods are too gross for accurate evaluation. Further, treatment in which the unaffected eye is occluded in an attempt to improve the vision in the squinting eye is based on the assumption that there is foveal fixation in the squinting eye.

Often no improvement in visual acuity is obtained. "Pleoptic" treatment attempts to overcome the hurdles of amblyopia ex anopsia and eccentric fixation. The premises of the treatment are:

1. Equal acuity in both eyes is paramount in the establishment of single binocular vision.

2. Defective vision in the deviating eye is most commonly the result of eccentric fixation.

3. Occlusion of the fixating eye reinforces eccentric fixation in the other; hence visual acuity fails to improve and further therapy is more difficult.

4. Eccentric fixation can be converted to foveal fixation through adequate training. This is based, first, on foveal recognition and, second, on visual-manual coordination.

The first premise, that relating to the importance of equal visual acuity in both eyes, is not subject to serious challenge. As to the relationship between defective vision and eccentric fixation, two of the cases reported by Mayweg and Massie[10] are of interest. In both of them esotropia was observed during the first few months of life and the ordinary occlusive techniques were carried out with no success. At age five, both patients had vision poorer than 20/200 in the deviating eye, and both had eccentric fixation (as observed by apparatus to be described later in this communication). After pleoptic treatment both patients had 20/20 vision and foveal fixation. Mayweg and Massie suggested that the low visual acuity in these patients before treatment was due to eccentric fixation and the poor resolving power of the eccentrically fixing retinal point, a point which had been reinforced by occlusion of the better eye.

Regarding the effects of ordinary occlusion, Mayweg and Massie[10] said: "Better and quicker results were obtained in those patients who had not had any previous occlusion, even when the fixation was sufficiently eccentric to be diagnosed by cover test alone." Von Noorden[13] emphasized the importance of occluding the *deviating* eye. He observed the return of suppressed visual function when such conditioned stimuli for suppression as bright light were excluded. Von Noorden also made note of the extraordinary capabilities of even highly amblyopic eyes to fixate foveally in dim surroundings.

The armamentarium of pleoptics consists of instruments designed to (1) diagnose eccentric fixation, (2) temporarily blind the parafoveal area and (3) stimulate the fovea. In addition, there are devices which are intended to coordinate the eye, the cortex and the hands. The term *pleoptics* was coined in 1940 by Bangerter,[3] of St. Gallen, Switzerland, in reference to his series of exercises directed toward such coordination. In 1953 he developed a method for restoring foveal fixation; and his textbook, published in 1955, remains the basic authoritative source of information on the subject. Bangerter's "Sehschule" has become a renowned institution for visual training. At the school, use is made of numerous ingenious devices to exercise the macula in correlation with other senses such as tactile, spatial and acoustical.

Unfortunately, Bangerter's equipment is cumbersome and expensive. Primarily for this reason, the spreading interest in pleoptics has centered around the instruments of Cueppers.[6] He began his work in 1954 and his method of diagnosis and treatment, which is similar to that of Bangerter, makes use of three relatively small and inexpensive devices, the Visuscope, the Euthyscope, and the Coordinator.

The Visuscope is essentially a conventional ophthalmoscope with low illumination. A small "star" figure can be inserted in the path of light, which is projected onto the retina. A measuring grid may also be inserted to record, in millimeters, any separation between fovea and star-figure.

The Euthyscope is also a modified ophthalmoscope, but with a high level of illumination. It is designed to project a cone of light of 30° arc on the retina, but leaves a central zone of from 3 to 5 degrees unilluminated.

The Coordinator makes use of the phenomenon of "Haidinger's brushes." This is an entoptic phenomenon, concerned with the appearance of polarized light at the fovea. Because of the "grain" of the center of the macula, the "brushes" are only observed when foveal fixation is being employed and hence are a valuable factor in foveal retraining.

One of Bangerter's instruments, the "pleoptophor," combines in one instrument the functions of Cuepper's three. Another, the "letter-separator," is used for gradually reducing intervals between letters as a way to help improve foveal fixation. A third instrument, the "localizator," is used in training for better hand-eye coordination, the patient being required to place a small stylus in various small holes without touching the sides of the holes.

The results ascribed to pleoptic training appear quite impressive. For example, in a series of 50 cases reported by Mayweg and Massie,[10] improvement to 20/20 vision occurred in almost 80 per cent. Before treatment, vision ranged from 20/60 to less than 20/400, and in all except eight cases occlusion of the unaffected eye had been carried out without any measurable improvement in visual acuity.

Pharmacological Treatment

Both cycloplegic drugs (atropine, for example) and miotics (isoflurophate, pilocarpine) have been advocated for use in the treatment of esotropia, however paradoxical it may seem that drugs so opposite in action could both accomplish the same result, namely, reduction in the degree of deviation.

Guibor[8] proposed the use of cycloplegics. He cited Duke-Elder[7] with regard to the possible effect of atropine on the extra-ocular muscles, an aspect of its use that is rarely considered. He also stated, contrary to most other opinion on the subject, that atropine reduces hypertonicity of accommodation and therefore hypertonicity of associated accommodative convergence. It is generally felt that, although atropine does in fact reduce accommodation by paralyzing the ciliary muscles, it does not alter accommodative effort; in fact, it may even stimulate accommodative effort as the patient attempts to overcome the cycloplegic effect. Assuming that accommodative convergence is directly related to accommodative effort, rather than to the end result, the degree of esotropia might be expected to increase, rather than decrease. This it does, in many cases. The use of atropine is probably best reserved for cases in which occlusion is desired but cannot be maintained by mechanical means; particularly in high degrees of hyperopia, atropine affords quite effective physiological occlusion.

The value of parasympathomimetic drugs (miotics) in the treatment of esotropia was recognized by Javal[9] as early as 1896. Specifically, he advised the use of pilocarpine to improve the appearance of a young girl with esotropia who was attending a wedding. The more recent stimulus toward the use of miotics has been largely provided by Abraham.[1,2] In a preliminary paper published in 1949 he described the use of pilocarpine in a series of 44 cases of comitant esotropia, with beneficial results in about 80 per cent. He also suggested the use of miotics in unilateral high hyperopia, in order to equalize vision without producing aniseikonia. In a second paper, published in 1952, he reported on 88 additional cases treated in this manner. It was emphasized that treatment should be continued until the age of eight, at which time the fusion faculty had matured. Permanent cure may frequently be achieved after divergence amplitudes have sufficiently improved.

At present, the use of miotics forms an integral part of the nonsurgical treatment of accommodative esotropia, as practiced by Costenbader[5] and others. Whitwell and Preston[14] recommended this therapy for residual esotropia-for-near which may follow operation for correction of squint. Isoflurophate (Floropryl®) is now the drug of choice, rather than pilocarpine, because of the longer duration of effect. It is used in strengths of from 0.01 to 0.03 per cent, the basic 0.1 per cent solution having been diluted with peanut oil or sesame oil. It can be used daily, but in many cases a satisfactory result is obtained by administration on alternate days or even every third day. Side effects may consist of cramping pain or local irritation, which is usually transient. Only rarely is sensitivity encountered, either to Floropryl or the oil diluent. Cysts of the iris along the pupillary margin occur frequently in persons being treated with this drug; Costenbader[5] said the incidence was 50 per cent, but noted that they subside without ill effect when the drops are discontinued.

The most obvious explanation for the beneficial results of miotics lies in the fact that they produce peripheral accommodation without central accommodative effort and associated convergence. They thus reduce the degree of hyperopia and shorten the distance to the punctum proximum, which makes them particularly valuable in the treatment of the so-called "hypo-accommodative" esotropes. Another explanation, and one which has received no attention in the literature, has to do with pupillary contraction rather than ciliary spasm. If the drug reduces the size of the pupil to 1 mm., the effect is that of a camera with a focal length of about 25 mm. and an aperture setting of *f*25. Such a camera would give satisfactory resolution of objects at distances between infinity and about 20 inches from the lens. Thus, a large part of the benefit of miotics probably accrues not only from decreased hyperopia, but from a decreased need to employ accommodation to maintain a sharp image on the retina.

Little need be said about the use of either sympatholytic or sympathomimetic drugs in the treatment of esotropia. They do not have proven effect on the accommodative mechanism.

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Surgical Treatment of Convergent Strabismus

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• **In convergent strabismus, glasses, visual training and exercises are often helpful, but operation is usually needed in addition to produce a functional or cosmetic cure.**

Babies who are born cross-eyed should be examined early and nonsurgical treatment started so that proper visual appreciation will be developed in both eyes.

Children in whom strabismus develops some time after birth (usually between 18 months and six years of age) should be examined with atropine, glasses prescribed when indicated and full medical treatment instituted. If those measures fail, operation should be done on one or both eyes, the operation depending on the magnitude of the deviation.

THE SURGICAL TREATMENT of convergent strabismus is not an exact science, and the evolution of surgical procedures is still in progress. The goal is a functional cure of binocularity, with depth perception and no incomitance. If this is unattainable, then the best possible cosmesis is sought, with as near normal visual acuity as possible.

Concomitant strabismus is a dissociation of the eyes wherein the deviation remains the same in all directions of gaze. Duke-Elder[3] divides it into two types:

1. Primary concomitant strabismus which is due to the effect of an obstacle in the sensory (afferent) paths of the binocular reflexes or in their central organization, so that the eyes, visually dissociated but coordinated by the postural reflexes, retain their motor taxis unimpaired. Therefore it is a bilateral affection. The nonfixing eye deviates. The essential feature of such a squint is a failure in binocular single vision and the squint occurs during the development of the binocular reflexes.

2. Secondary concomitant squint is owing to abnormality (usually paresis) of a peripheral muscle. Commonly a weakened muscle on one side is opposed by a contracted muscle, the situation eventually bringing about permanent structural changes. Hence the deviation, originally apparent only on movement in the direction of the action of the affected muscle, becomes evident in all directions of gaze, persists after the cure of the paresis, and the squint becomes comitant.

Concomitant strabismus is of three clinical types—monocular, intermittent and alternating. Approximately 82 per cent of all concomitant squints are monocular, and the remainder is about evenly divided between intermittent and alternating. When treatment is considered, they are classified also as accommodative, partially accommodative and nonaccommodative.

Functional cure can be attained in approximately 30 per cent of patients if they are treated early and correctly. Usually surgical intervention is not necessary for the accommodative type, as the refraction under atropine and properly prescribed glasses will usually be adequate. Operation is almost always required for alternating strabismus and for whatever part of partially accommodative strabismus glasses do not correct. In cases in which surgical treatment is necessary, it should be done early so that the binocular reflexes will have a chance to develop properly.

In strabismus of the monocular and intermittent types, atropine refraction should be done and corrective lenses prescribed before operation is considered. Amblyopia should be treated by occlusion and alternation and by training to give the patient full appreciation of diplopia. If the eyes can be brought to equal vision or nearly so, the prognosis is much improved. Fusion training is advisable if the patient is old enough. Operation should not be delayed if the angle of deviation is an obstacle to fusion.

For patients with congenital convergent strabismus and those in which the condition develops in the first year of life, operation should be done early but it should be conservative. The visual axes should be placed as near parallelism as possible to allow the visual acuity and binocular reflexes to develop normally if a cure is to be expected. In general, patients of this order should have operation between the twelfth and eighteenth months of age. The choice of procedure lies between bilateral symmetrical recessions of the medial rectus muscles and a recession of a medial rectus and a resection of a lateral rectus of the same eye. Since conservatism is advisable, a bilateral 4 mm. recession of the medial rectus muscles is a safe procedure. If the unilateral operation is decided upon, a 4 mm. recession of a medial rectus and a 7 or 8 mm. resection of a lateral rectus is conservative. It is well known that the younger

Presented as part of a Panel Discussion on Strabismus before the Section on Eye at the 88th Annual Session of the California Medical Association, San Francisco, February 22 to 25, 1959.

the patient and the greater the angle of deviation, the more to expect from operation. Frequently patients of this kind will need further operation, and the parents should be so advised at the outset. Furthermore, the parents should be told that since the binocular reflexes develop gradually over a period of five or six years, the child must be under observation at regular intervals during this period.

If the onset of strabismus is between age one and age three, and if nonsurgical means have failed, operation should not be delayed. If strabismus occurs after age three, surgical treatment may be delayed for a considerable time, for the binocular reflexes have already been partially developed. Other means may be effective. Also, it is in the period from two and a half to four years of age that most accommodative squints appear, and glasses and other nonsurgical treatment may be given a good trial before resort to operation.

In deciding when to operate, and which of the horizontal muscles to operate upon, a large number of factors are to be considered, such as age of the patient, age at onset, duration of the squint, refraction, visual acuity, anisometropia, amblyopia, amount of deviation at distance and near, both with and without glasses, intermittency and variability of the angle of deviation. Additional factors include rotations, secondary deviations, adduction and abduction; vertical component, near-point of convergence and whether the angle of deviation is greater when the patient is fixing upon an object with one eye than it is when he is using the other.

The mechanical factors to be considered are the size and attachments of ocular muscles, contractures, anomalies of check ligaments, irregularities of the size of the globes and orbits, as well as visible lesions of the media, the fundus or the optic nerve.

In older children, the status of retinal correspondence, suppression, fixation habits and fusion are considerations.

The presence or absence of the accommodative element is important, and if accommodative abnormality is present it should be corrected.

The near-point of convergence is probably important only when it is remote. The medial rectus muscles invariably can adduct normally or excessively even when convergence is poor. It is important to note in this regard that the innervation to produce convergence is separate from the innervation of lateral version. The origin from the central nervous system is not the same. However, with a remote near-point of convergence, the primary procedure should be on the lateral rectus muscles.

In most convergent strabismus there is an excessive amount of adduction and the medial rectus of one eye or both should be recessed and (depending on the angle of deviation and the state of abduction) a lateral rectus resected.

The angle of deviation should be measured with each eye fixing, and the difference noted. Then the operative aim should be to correct the lesser angle. Also the difference of the angle of deviation at distance and near should be noted and the deviation at distance corrected. Should the larger angle for near be corrected, exophoria or exotropia for distance might result.

Many patients with convergent strabismus have abnormality of vertical alignment. If it is relatively slight, it may disappear following the correction of the esotropia or be so small that it can be satisfactorily controlled with prisms incorporated in the glasses. If it is of considerable degree it may require attention at the same time the esotropia is corrected. No absolute rules can be given, but if the vertical deviation is greater than the horizontal, it probably should be corrected first. Not infrequently an overacting inferior oblique muscle will be much improved after the horizontal deviation is corrected and need no treatment at all.

The Medial Rectus

A recession of a medial rectus is generally recognized as a good procedure. The effect may be varied by the amount of the recession. The usual recession is 4 or 5 mm. Operation for recession of less than 3 mm. is rather pointless, as the surgical error can be as much as 1 to 2 mm. Recession should not be carried beyond the equatorial plane, owing to danger of loss of effectiveness of the muscle mechanically. Central tenotomy and recessions of 1.5 to 2 mm. are practically valueless except insofar as they enhance the action of a direct opponent which has been tucked or resected. Marginal myotomy is unpredictable and while some surgeons use it as a primary procedure, it may be left for a final procedure if bilateral recessions and resections have not fully corrected the esotropia.

The technique of recession varies with surgeons but the tendon should be dissected free from Tenon's capsule and from the superficial conjunctiva, and the check ligaments should be freed. If the superficial conjunctiva is not freed under the caruncle it may cause a retraction of the caruncle as healing occurs. The tendon is cut free from the insertion with scissors close to the sclera. Two fixation forceps with locks are placed at each end of the original insertion for fixation and stabilization of the globe, while the superficial scleral sutures of fine catgut are placed at the desired distance back of the original insertion. If a clamp is used on the muscle, the sutures should be placed in mattress fashion in the very end of the muscle tendon distal

to the clamp to preserve as much tendon as possible.

The recession of a medial rectus alone is unpredictable. Keith Lyle[6] states that a 5 mm. recession on the average reduces the angle of deviation from 7 to 12 degrees. In my own experience, the recession of a single medial rectus muscle varies greatly and is used only in patients with a convergence excess and a relatively small deviation.

The Lateral Rectus

In convergent strabismus the lateral rectus may be resected, cinched or tucked. In resection, usually from 5 to 10 mm. of the tendon is excised; in tucking, the amount involved is usually from 5 to 12 mm. In general, either method is applicable. In tucking, the tendon must be thoroughly cleaned of Tenon's capsule and of the sheath so that when the tendon is folded upon itself the flat surfaces will grow together. The tendon is not cut and the amount involved in the operation can be varied as easily as the amount excised in a resection. There is practically no danger of the sutures' slipping out, and the eye may be treated orthoptically as early as desired. In the author's experience, the results of a tucking procedure are more predictable than those of resection. An advancement may be done at the time of the resection, but this is rarely indicated or needed.

Since recessions are more effective immediately and are also more lasting than resections and tucks, and since adduction is usually much greater than abduction in a normal patient, it is rational to include a recession in most patients with a convergent deviation; and frequently a resection must also be made on the lateral rectus at the same time, in order to gain the necessary amount or correction. When the two operations are combined, there is a greater effect and it is immediate. Some authorities advise bilateral symmetrical operation, claiming it produces less incomitance and offers a much better chance for cure. Bilateral recessions, if too generous, can lead in time to overcorrection. It seems to work well if the deviation is not too large (about 30 to 40 diopters) and if the recessions are in the neighborhood of 4 mm. In the case of alternating strabismus of moderate degree, bilateral operation may be the procedure of choice but a recession and resection on one eye is also effective. Bimedial recessions may also be used satisfactorily for patients who at first had monocular strabismus but have been taught alternation and have equal or near-equal visual acuity. Cushman[2] and Costenbader[1] said that in certain cases where there was thought to be partial paresis of the external rectus muscle, the evidence of paresis disappeared in time as the normal binocular reflexes developed. They expressed belief that gradual constant improvement may be expected up to six months after operation, and that then if there is still residual deviation, one or both of the lateral rectus muscles can be shortened.

Schlossman[4] and Sugar,[5] among others, expressed the opinion that a bimedial recession should not be done and they stated a preference for recession and resection. It was their belief that by recession and resection on one eye, valuable information can be gained as to how much to do on the fellow eye in the event residual deviation remains.

The choice between methods would seem to be of no great moment so long as the procedure is rational in the individual case. Care must be taken not to do too much to any one muscle; none of them ought to be altered so much that its normal physiological action is impaired. Versions and ductions must be satisfactory after operation. In general, a 5 mm. recession of a medial rectus and an 8 to 10 mm. resection (or 10 to 12 mm. tuck) of a lateral rectus is adequate and reasonable as a maximum when functional cure is the goal. In certain cases of monocular squint where a cosmetic result is desired, a bolder procedure on the deviating eye may be justified, as parallelism of the eyes in primary position is the real goal.

It is most difficult to be specific as to the amount of recession and resection in any patient, for there are so many variables. The same degree of muscle displacement, in millimeters, may not correct the same amount of deviation in two patients with seemingly identical squints.

Various observers have set up tables as guides. They are valuable for the beginner, but experience is the best teacher and even the most experienced surgeon is frequently puzzled by the end result. Certainly a strongly overacting medial rectus needs recession and a weak lateral rectus needs tucking. A plan should be decided upon before operation, and rarely should it be changed at the operating table. Usually a clue to the best operative plan can be obtained from study of rotations. Occasionally, a little alteration of the predetermined plan may be made on the basis of information obtained by observation of forced ductions at the operating table.

My plan is about as follows: In a case of alternating convergent strabismus in which the angle of deviation is 15 diopters, a recession of the medial rectus of 5 mm. or a tuck of a lateral rectus of 10 to 12 mm. is made. In angles of 20 to 30 diopters, with or without accommodative element, a recession of 3 mm. and a tuck of 6 to 8 mm. is usually sufficient. In angles of 30 to 40 diopters, a recession of 4 mm. and a tuck of 8 to 10 mm. is made, or a symmetrical bimedial recession of 3 to 4 mm. In cases of 40 to 50 diopters of deviation, a 5 mm.

recession and an 8 to 10 mm. tuck or symmetrical bimedial recessions of 4 mm. are generally adequate. If the deviation is 50 diopters or more, a 5 mm. recession and an 11 to 12 mm. tuck is made. Any residual deviation can be corrected later by operation on the other eye.

In the treatment of monocular esotropia of 15 to 20 diopters with a good near-point of convergence, with equal or near-equal visual acuity and with an angle of deviation greater for near than for distance, I operate on the deviating eye and recede the medial rectus 5 mm. or tuck the lateral rectus 8 to 12 mm. If the angle is 20 to 30 diopters, I recede the internus 3 mm. and tuck the externus 5 to 6 mm.; from 30 to 40 diopters, recede the internus 4 mm. and tuck the lateral rectus 6 to 8 mm.; from 40 to 50 diopters, recede the medial rectus 4 mm. and tuck the externus 10 to 12 mm.; 50 diopters or more, recede the medial rectus 5 mm. and tuck the lateral rectus 12 mm. Any residual esotropia can be corrected later by treatment of the dominant eye.

In the treatment of monocular esotropia with amblyopia (20/30 to 20/70) with good fixation of the deviating eye and with decided excess of adduction, if the angle is from 20 to 30 diopters, I recede the medial rectus 3 to 4 mm. and tuck the lateral rectus 5 to 7 mm.; from 30 to 40 diopters, recede the medial rectus 4 mm. and tuck the lateral rectus 6 to 8 mm.; from 40 to 50 diopters, recede the medial rectus 4 mm. and tuck the lateral rectus 8 to 10 mm.; 50 diopters or more, recede the medial rectus 5 mm. and tuck the lateral rectus 10 to 12 mm.

In the treatment of monocular esotropia with pronounced amblyopia and no hope of fusion, I operate on the deviating eye in an attempt to slightly undercorrect. Then in time the squint tends to exodeviation. If the angle of deviation is great, the maximum recession I use is 6 mm. and the maximum tuck is 12 mm.

It is necessary to treat all vertical components that are a barrier to fusion. If the superior oblique muscle is paretic, it may be tucked or the opposing inferior oblique may be receded. Occasionally the inferior rectus (yoke muscle) of the opposite eye may also be receded. If there is overaction of the inferior oblique, I usually recess the muscle up to 8 mm. If there is pronounced overaction of the inferior oblique (over 14 diopters), myectomy is indicated. If a paretic superior or inferior rectus muscle is the cause of the vertical deviation, an O'Connor cinch is my choice.

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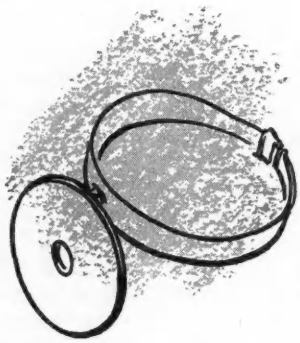

Electromyography in Strabismus

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• **Electromyography of the human extraocular muscles is a new research tool designed to elucidate many problems in ocular physiology. Although at present it affords little clinical help in the diagnosis and treatment of strabismus, it may in time be of value in neuro-ophthalmologic disease.**

ELECTROMYOGRAPHY of human extraocular muscles is proving to be a technique of great value in elucidating the nature of normal ocular motility.[2,3,6,7,8] However, in the field of strabismus, whether paralytic or nonparalytic, it offers very little practical help in diagnosis and treatment at the present time.

Briefly the procedure[5] (schematically represented in Figure 1) is as follows: The patient is placed on a wheeled stretcher in a room that is screened to keep out extraneous electrical impulses that might contaminate the electromyogram. Using topical anesthesia only, fine electrodes are inserted through the conjunctiva into the extraocular muscles to be tested. The electrical activity of the muscle is carried via a headband and cables to an amplifying system which, in turn, sends the amplified impulses to an oscilloscope. The display on the face of the oscilloscope is photographed by a variable film speed camera.

Electrical activity of the muscle is also carried to a loudspeaker for auditory monitoring. This guides the investigator in determining whether he has a satisfactory insertion in the muscle. When the insertion is adequate, a loud rumbling or crackling noise, rising to a crescendo, will be heard as the eye moves into the field of action of the involved muscle.

The investigator wears a lapel microphone, into which he dictates the conditions noted as the test is being performed. This dictated protocol of the test is recorded on tape. Later, when the results of the test are analyzed, the film record and the narrative are synchronized so that the reviewer can consider the electromyogram and the investigators' comments together. Figure 2, a typical electromyogram obtained by this technique, shows a simultaneous recording of the electrical activity of four extraocular muscles.

Investigations into the applications of electromyography to comitant (nonparalytic) strabismus are hindered by the dearth of suitable subjects. Most of the available subjects with comitant strabismus are children, who cannot be considered suitable for a technique requiring insertion of needles into the eye muscles under topical anesthesia. Deeper anesthesia is not feasible, for it would alter the conditions of the test and vitiate the findings. In the occasional case in which an adult subject with comitant strabismus became available for testing, no significant difference in extraocular muscle electrical activity as compared with that of normal subjects was noted. This was to be expected inasmuch as extraocular electromyography reflects primarily the peripheral extraocular muscle activity rather than central mechanisms, which is a further obstacle to the clinical use of electromyography in comitant strabismus.

There are also obstacles to the application of electromyography to noncomitant strabismus. As with comitant strabismus, one is the fact that electromyography informs primarily of the peripheral activity of the neuromuscular extraocular system. This limits conclusions that may be drawn from electromyograms regarding more central mechanisms or etiologic factors. For example, Breinin[1] attempted to explain the "A-V" syndrome* on the basis of changes in activity of the horizontal recti during vertical movements. He observed that in most of the ten cases of the A-V syndrome in which he carried out the tests the horizontal recti showed innervational changes corresponding to the deviation, although in a few of this group the horizontal recti showed no particular change in vertical gaze. From this, he concluded that the horizontal recti must play some part in the varying angle of strabismus and that in surgical treatment it is advisable to deal first with the horizontal muscles, then the vertical. Such a conclusion may be misleading, for the mere fact of increased activity of a muscle may be owing only to the new position of the eye and give no information as to why the eye moved to this new position. For example, in exophoria if the divergent eye is covered it will deviate outward and the electromyogram will show increased activity of the lateral rectus of that eye (Figure 2), but it cannot be concluded from this

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Presented as part of a Panel Discussion on Strabismus before the Section on Eye at the 88th Annual Session of the California Medical Association, San Francisco, February 22 to 25, 1959.

*The term takes its name from the shape of the letters A and V: There is horizontal incomitance in vertical movements of the eye, vertical incomitance in cardinal direction movements.

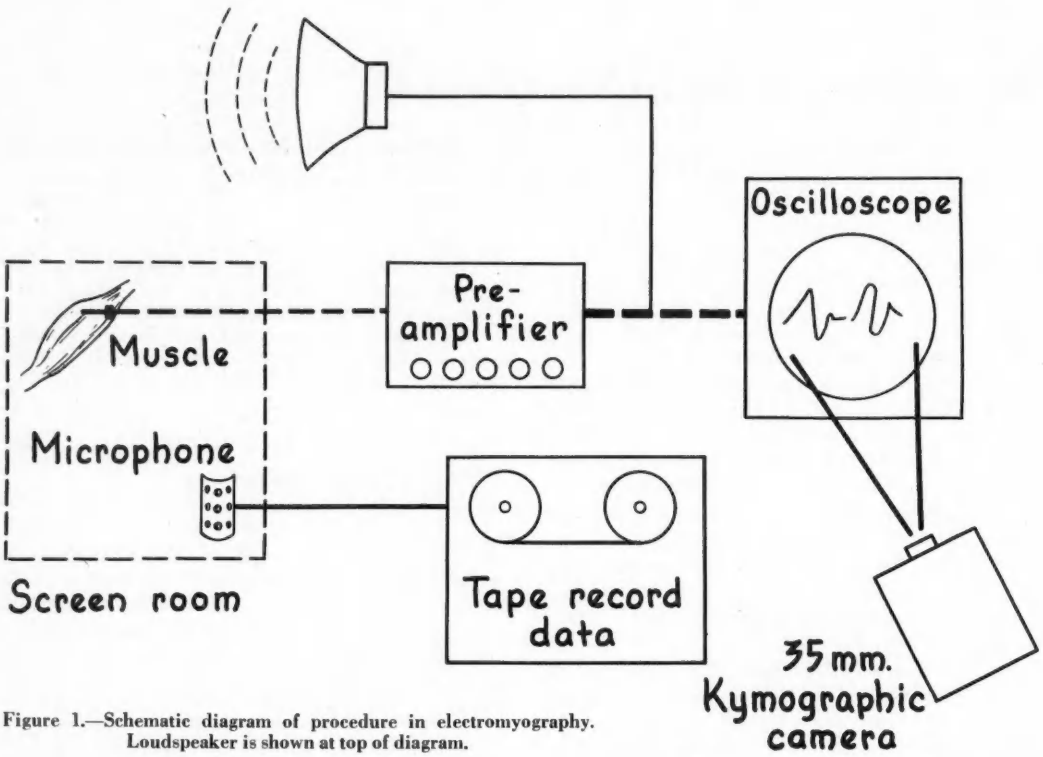

Figure 1.—Schematic diagram of procedure in electromyography. Loudspeaker is shown at top of diagram.

that an abnormally overactive lateral rectus caused exophoria. Similarly, in the A-V syndrome the electrical activity of the horizontal muscles in vertical movements may merely reflect the changing horizontal alignment of the eyes rather than indicate the cause of the horizontal incomitance. Furthermore, horizontal recti activity during vertical movements may vary greatly between one normal subject and another. In Figure 3 the right lateral rectus shows greater activity in the up and right position of gaze than in the down and right position. In another subject the right lateral rectus was more active in down and right gaze than in the up and right gaze (Figure 4).

Another obstacle to the application of electromyography to paralytic strabismus is the relatively small number of patients with a neuro-ophthalmologic defect of specific type. Although reports have been made of abnormal electromyograms in conditions such as diabetic neuropathy, aberrant regeneration, Duane's syndrome, endocrine exophthalmus, ophthalmoplegia, Moebius' disease, and superior oblique tendon sheath syndrome, it cannot properly be inferred from these few cases that the patterns observed are characteristic. At present an abnormal electromyogram in neuro-ophthalmological disease merely confirms the presence of neuropathy or myopathy.

With regard to the diagnosis of extraocular muscle palsy, it should be pointed out that the relative strength of a muscle cannot be judged by the amplitude of the electromyographic tracing except in pro-

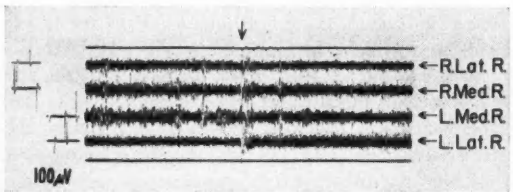

Figure 2.—Simultaneous recording of four extraocular muscles. Calibration is at left (the deflection represents 100 microvolts), signal marker is on top line, and time scale is at the bottom, in this and succeeding figures. Arrow indicates moment of covering the left eye of a subject who had exodeviation. Note the increased activity of the left lateral rectus muscle as the left eye moves outward, while the right eye maintains steady fixation.

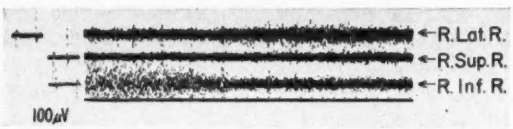

Figure 3.—Electromyogram made as the right eye was moving from down and right gaze to up and right gaze. Note increased electrical activity of right lateral rectus (right half of tracing) as eye moved into upper field of gaze.

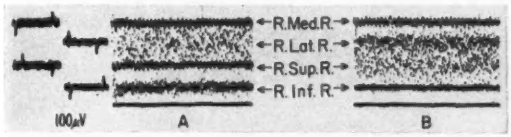

Figure 4.—*A*, Tracings made with the right eye in down and right gaze. *B*, The same eye, a moment later, in up and right gaze. Note increased right lateral rectus activity in the lower field of gaze (widely spread tracing of right lateral rectus lead in *A* as compared with somewhat more concentrated markings in corresponding tracing in *B*).

nounced paralysis. Even in normal conditions the amplitude may vary, depending on several factors, principally the location and depth of the inserted electrode. Figure 5 shows tracings from three electrodes that were inserted into the same normal eye muscle during contraction of that muscle; there were considerable disparities. Electrodes closer to the belly of the muscle record activity sooner and reach larger amplitudes than the recordings from electrode tips more distant from the muscle belly.

Despite the obstacles, there are a few clinical applications of electromyography to paralytic strabismus. For example, there is enough evidence now to state that distinction can be made between limitation of eye movement due to mechanical restriction and that due to nerve damage. Figure 6 is an electromyogram of the left superior rectus muscle of a 17-year-old boy who received trauma to the left orbit that resulted in inability to move the left eye up and out. As the tracing indicated no abnormality, innervation and muscle contraction were considered normal, which suggested the impaired motility was owing to mechanical restriction. Operation was performed and scar tissue adhesions involving the muscle were excised. Rotation to the up and out position was possible thereafter. An electromyogram after operation was the same as the one made before operation.

Another application is in the diagnosis of myasthenia gravis. It appears that ocular electromyography is the most sensitive test for the response of the muscles to a test dose of edrophonium chloride (Tensilon®). Figure 7 shows the increase in electrical activity in an involved muscle in a patient with myasthenia gravis about 20 seconds after the intravenous injection of 10 mg. of edrophonium chloride. Electromyography may decide the diagnosis in patients who have false negative response to the other usual clinical tests.

Ocular electromyography also gives objective confirmation of the over-action of a yoke muscle in a paralytic strabismus. This is illustrated in an electromyogram in a case in which the paralysis was artificially induced by injection of procaine (Figure 8).

Eye Research, Stanford University Hospitals, San Francisco 15 (Tamler).

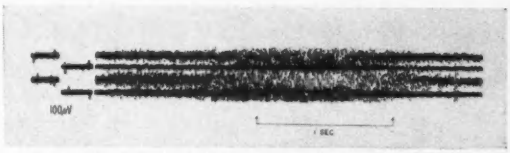

Figure 5.—Tracings from three electrodes in the same eye muscle as the muscle contracted. Note the variability in amplitude and speed of response from electrode to electrode. Channel 2 was not recording.

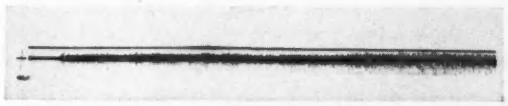

Figure 6.—Tracing made as the left eye was moving from primary position to up and right gaze and then attempted to move to up and left gaze. Response in the left superior rectus muscle was normal in spite of the fact that the left eye failed to move up and out.

Figure 7.—Increase in activity of involved left lateral rectus muscle (as shown by increase in amplitude of waves, beginning about midway of tracing) in patient with myasthenia gravis approximately 20 seconds after intravenous injection of 10 mg. of edrophonium chloride.

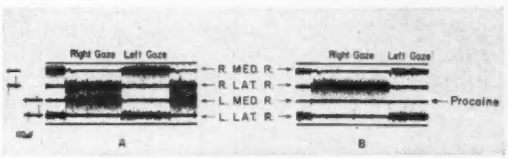

Figure 8.—*A*, When these tracings were made, the right eye was performing saccades (rapid versions) to right and left. *B*, The same eye was performing the same movements after procaine-induced paralysis of the left medial rectus. Note greater activity of right lateral rectus (yoke muscle of paralyzed muscle) in saccades to the right in *B* as compared with *A*.

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Cardiac Arrest Through Volition

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SINCE DISCOVERY of the heartbeat, yogis and fakirs have claimed to be able to control it at will, but there are no documented cases in the medical literature of cardiac arrest through volition, without physical manipulations of any kind. The following case is presented because it is unusual, perhaps unique.

REPORT OF A CASE

A 44-year-old aircraft mechanic of Danish descent was admitted to Lindsay Municipal Hospital, April 24, 1958, because of a cold with cough of two weeks' duration. He said that in the previous 20 years he had had six episodes of upper respiratory tract infection, and that during these periods he had found that by sitting quietly, relaxing completely and "allowing everything to stop," he could induce progressive slowing of the pulse until cessation of heart action would occur, then a feeling of impending loss of consciousness. After a few seconds of this sensation, he would take a deep breath and normal heart action would resume. These occurrences resulted in the patient's developing a fear of sleeping, lest his heart stop and not start again. In 1953 and several times afterward the author verified this story by auscultating the heart and palpating the radial pulse while the patient induced several seconds of cardiac arrest. At these times his color would become the ashen grey of sudden circulatory failure, and partial loss of consciousness would ensue. However, no cardiac irregularities were ever observed during either normal sleep or general anesthesia. Cardiac arrest occurred only when the patient deliberately induced it.

The patient stated that at the age of seven years he had had rheumatic fever, then was bedfast for a long time and took digitalis for five years thereafter. Since that time he had had a cardiac murmur but no arthralgia, dyspnea, orthopnea, fever or chills. He underwent tonsillectomy at age 12 and cholecystectomy in January 1958, both under general anesthesia, without incident.

Submitted October 30, 1958.

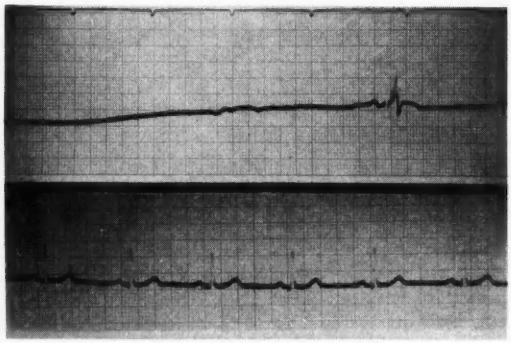

Figure 1.—*Above:* Electrocardiogram (lead I) showing cardiac arrest through volition. *Lower:* Normal tracing (lead I) for same patient.

On physical examination, the oral temperature was 99°, the pulse rate 60, respirations 18 per minute and blood pressure 134/74 mm. of mercury. The patient was muscular, intelligent, somewhat tense and anxious. There was no icterus, cyanosis or edema, but there was clubbing of all fingers. The only other abnormality noted in a complete examination was a grade I systolic murmur heard over the aortic area, becoming grade II along the left sternal border, the sound transmitting poorly to the apex. The rhythm was regular. Upon x-ray examination it was observed that the size and contour of the heart were within normal limits.

Electrocardiographic leads were connected and the patient was asked to induce slowing of the heart. This actually occurred with no physical manipulations except lying very quietly and allowing respiration to become quite shallow. The electrocardiogram showed slowing of the sinus rate progressively to the point of sinus arrest for a period of five seconds, followed by several atrioventricular nodal beats, and then resumption of sinus bradycardia at a rate of about 55. At several points in the record, occasional atrioventricular nodal beats were observed. An electrocardiogram an hour later with the patient at rest was normal.

A consultant who examined the patient and read the electrocardiograms suggested the use of sympathomimetic drugs, but subsequent use of atropine, ephedrine, amphetamine and aminophylline at different times did not change the arrest mecha-

nism. Even after recovery from the respiratory tract infection, the patient found that he could still induce bradycardia and brief periods of cardiac arrest almost at will.

DISCUSSION

It was felt that the clubbing of the fingers noted in this patient was familial, since it was present also in his son, who was healthy. The underlying cardiac change is believed to be well compensated rheumatic heart disease with aortic valvulitis. The bradycardia and cardiac arrest are probably manifestations of exaggerated vagotonia, induced through some mechanism which, although under voluntary control, is not known to the patient himself. Careful observation did not reveal any breath-holding or Valsalva maneuver in connection with the cessation of heartbeat. Apparently the patient simply abolished all sympathetic tone by complete mental and physical relaxation.

SUMMARY

A case is presented of a patient with old rheumatic heart disease, who is able to produce cessation of heartbeat, apparently by volition alone.

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Acute Renal Failure Manifesting as Water- And Salt-Losing Insufficiency

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CLINICAL SYNDROMES involving primary inability by the renal tubules to retain sodium have reached their fullest expression under the generic term "salt-losing nephritis." The condition usually is chronic, requiring long-term salt replacement therapy. Except for the reversible urinary salt loss of the diuretic phase of lower nephron nephrosis and that caused by diuretic agents, relatively little has been written of transient primary renal salt-losing syndromes. Following is a report of a case of reversible acute salt-losing renal insufficiency occurring after nephrectomy.

REPORT OF A CASE

A 75-year-old white woman was admitted to the Highland-Alameda County Hospital on January 22, 1958, following a fall at home, after which she apparently lay on the floor all night, without voiding or eating, until found by a friend the next morning. She said that she had had no previous weakness, dizziness or imbalance and she was proud of being active. The last time she had needed the services of a physician was some forty years before for the birth of a child.

Upon examination it was noted that she was alert and spry-appearing. There was a small laceration on her forehead. The blood pressure was 104/60 mm. of mercury and the pulse rate 76 with a regular rhythm. The bladder was palpably enlarged above the pubis, and on catheterization 200 cc. of grossly bloody urine was removed.

There was motor weakness of the upper and lower extremities and assistance in walking was required. No neurological abnormalities were noted. X-ray films of the skull and chest taken at the time of admission were normal. The patient was then referred to the urological department where cystoscopy revealed the presence of what appeared to be diffuse, severe, acute hemorrhagic cystitis.

Submitted September 5, 1958.

In light of the patient's debility, an indwelling catheter was placed and laboratory examinations were obtained the next day. Results of centrifuged urine examination showed alkaline reaction, 2 plus albumin, no sugar, 140 leukocytes and 350 plus erythrocytes per high power field. Hemoglobin was 13 gm. per 100 cc. of blood, and leukocytes numbered 15,800 per cu. mm. Blood urea nitrogen was 100 mg. per 100 cc. and blood creatinine was 1.7 mg. per 100 cc. A urine culture grew an antibiotic resistant Aerobacter aerogenes. Phenolsulfonphthalein excretion was 5 per cent in the first hour and 35 per cent in the second hour.

The clinical impression was that the patient had acute and chronic hemorrhagic cystitis superimposed on probable carcinoma of the bladder with bilateral hydroureter. However, less than a month later, following rehydration, the blood urea nitrogen was down to 11 mg. per 100 cc. The hemoglobin content eventually became stable at 8.8 gm. per 100 cc.

An electrocardiogram and an x-ray film of the chest were interpreted as being within normal limits. Intravenous pyelograms obtained at this time revealed the presence of mild bilateral pyelectasis and caliectasis with a strong suspicion of a filling defect in the right renal pelvis. A cystoretrograde study carried out February 25, 1958, showed considerable resolution of the previously noted inflammatory process in the bladder, and there was no evidence of carcinoma. In differential phenolsulfonphthalein studies of the kidneys, there was excretion of 1 per cent of the dye from the right side and of 10 per cent from the left in 12 minutes. Bilateral pyelograms showed a ragged, irregular filling defect involving the right renal pelvis and associated caliectasia. Inflammatory changes involving the left upper ureter were also noted. Microscopic examination on culture of specimens of urine collected in a 24-hour period were negative for acid-fast organisms. A retrograde study a few days later again showed the irregularity of the right renal pelvis, consistent with the impression of right renal pelvis

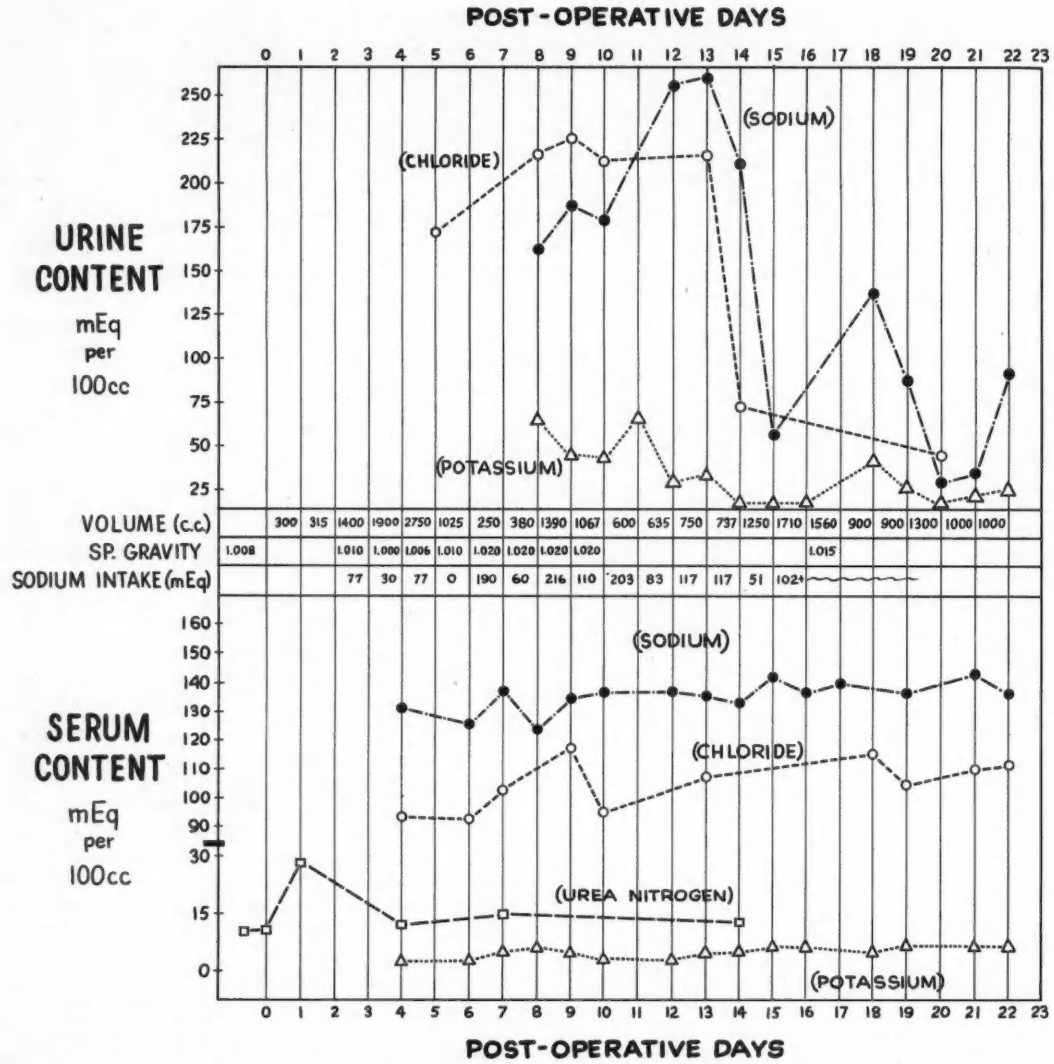

Chart 1.—Electrolyte contents of urine and serum, determined daily.

carcinoma. Another phenolsulfonphthalein determination on March 7, 1958, showed 47 per cent excretion in one hour and 15 per cent in the second hour. At her request the patient was discharged from the hospital, to return April 18. At the time of readmittance the blood urea nitrogen was 10 mg. per 100 cc. and the hemoglobin content 10.4 gm. per 100 cc. The specific gravity of the urine was 1.008 and the reaction alkaline.

On April 24, right transperitoneal morcellation nephrectomy was done with the patient under pentothal and nitrous oxide general anesthesia. The procedure was long and arduous owing to severe peripelvic inflammatory adherence to the vena cava and duodenum. The latter structure, which was intimately associated with both walls of the renal pelvis, had caused the pyelographic deformity. Separate closure was required for it.

Fluid replacement consisted of 2500 cc. of whole blood (1000 cc. of it given rapidly during a short period of acute hypotension) and 500 cc. of dextran. In the recovery room immediately after operation, it was noted that the blood pressure, which had been 110/60 mm. of mercury before operation, had risen to 180/110. In addition, there was peripheral cyanosis and a sustained clonus involving the right upper and lower extremities. It was thought that the acute surgical hypotension might have led to a cerebrovascular accident or that the amount of blood given had been excessive, causing an acute hy-

pertensive encephalopathic change. An immediate packed cell volume determination showed it to be 45 per cent, and it remained at that concentration for several days, implying that the distressing condition of the patient immediately after operaton was owing at least in part to hypervolemia.

The excised specimen, the pathologist reported, showed severe active and chronic ascending pyelonephritis and peripelvic inflammation.

The day after operation the blood pressure was within normal range and the patient was feeling well. During the night, oxygen inhalation therapy had been carried out and 2.0 gm. of albumin had been infused intravenously. Within 72 hours the patient was walking and taking fluids orally. The urinary volume rose from 315 cc. the first postoperative day to 2,790 cc. on the fourth day although the maximum daily fluid intake was only 1,500 to 2,000 cc. Specific gravity of the urine at this time ranged from 1.000 to 1.010. In the evening of the fourth postoperative day, the patient became restless and confused. It appeared that these phenomena might be ascribed to water intoxication. Since sodium determinations showed a moderately low content (Chart 1) hypertonic saline solution was given parenterally and the intake of fluids by mouth was restricted. Urinary electrolyte determinations were carried out daily and it became immediately apparent that the kidney was unable to retain salt. As the chart shows, serum sodium determination showed a moderately low content on the fourth postoperative day. During the next nine days the patient required increased amounts of sodium, up to 216 mg. per day in the form of hypertonic saline solution and molar lactate plus adequate potassium supplementation. The blood serum sodium levels, however, remained slightly low to normal, whereas the sodium content of the urine ranged upward from 157 mEq. per liter. Partial restriction of salt intake for one day resulted in a lowering of serum sodium, in edema formation and an increase in body weight. The blood urea nitrogen remained within normal limits, and serum creatinine on May 3 was 0.7 mg. per 100 cc. Carbon dioxide combining power was 26 mEq. per liter. An adrenocorticosteroid test in which 10 mg. of cortisone acetate was given intramuscularly during a 24-hour period of sodium chloride infusion at a constant rate, showed no response. An antidiuretic hormone vasopressin test on May 7 was inconclusive because of scant urinary output. On May 9, the 15th postoperative day, there was an abrupt decrease in urinary excretion of sodium, chloride and potassium, and thereafter the excretion of these chemicals remained within normal limits (except for one day when an increase was caused iatrogenically). An adrenocorticosteroid test was carried out again on May 14, and again gave no evidence that corticosteroid insufficiency was a factor in the salt-losing phenomenon in this case.

On May 19, 1958, the patient was discharged from the hospital. Subsequently observed twice, she was feeling well and had gained seven pounds in body weight.

DISCUSSION

This case would appear to illustrate vividly the functional dichotomy that can exist between the various portions of the nephron. Most certainly it helps in the recognition of different selective forms of acute renal insufficiency in response to a gross insult to the entire organ. Well appreciated are the chronic renal-losing syndromes wherein given solutes are not reabsorbed and are lost individually and even collectively as sodium, chloride, potassium, amino acids, glucose, etc.[2,4,5,8] In this situation, specific tubular lesions have either altered the carbonic anhydrase system as a result of underlying pyelonephritis or there are lesions as yet indeterminate. Less frequently seen are segmental nephron disturbances, clinically and chemically discernible, occurring during the course of acute renal failure. Usually the two main categories of acute renal failure—renal ischemia and direct nephrotoxic renal tubular cell poisoning—have produced these effects on the nephron so rapidly and completely that sequential analysis of their effects is impossible. This results in what is seen in the classical case of acute renal failure—oliguria, isothenuria and retention of sodium, chloride, potassium and nitrogenous wastes. These lesions may give rise to transient, barely perceptible clinical conditions, or they may cause a complete irreversible renal cortical necrosis incompatible with life, the degree depending upon the severity of tubular necrosis.

The etiological consideration in this case would appear to be one of ischemia secondary to decreased supply of blood to the kidneys. Acute transient surgical hypotension is a well known cause of acute renal failure, particularly if prolonged and if renal disease already is present. It would appear from the laboratory findings that impaired renal function existed in this case. Of additional and possibly primary importance was hypervolemia caused by infusion of too much blood. One can only conjecture that renal erythemia may have brought about stasis and thrombosis of the arterioles supplying the tubular portion of the nephron. Even more speculative is what collective effect the hypotension, hypervolemic hypertension and related hypoxia may have had on the cerebrum.

The polyuria which occurred during the first four postoperative days would at first seem to be related to the apparent operative over-hydration. However, Perlmutter[10] emphasized the occasional case of acute renal failure with oliguria for a period or not present at all, then almost immediate entry into the diuretic phase. It is during this phase of polyuria that concommitant large amounts of sodium can be lost in the urine. In the present case, however, after only four days of polyuria there was a decided decrease in urinary output to between 300 and 1,000 cc. a day. That this period of increased water output was related to an initial phase of unresponsive renal tubules could be seen in the inability to concentrate the glomerular filtrate until the sixth postoperative day. Other investigators also have noted

occasional cases of acute renal failure in which deviation from specific gravity of 1.010 has occurred.[6,10,12]

Urinary excretion of salt in the present case continued despite curtailment of intake of both salt and fluid and the diagnostic use of adrenocorticosteroids. The abrupt cessation of salt loss after two weeks was undoubtedly related to the functional restoration and regeneration of the involved tubular cells. Unfortunately, since laboratory determinations for titratable acid and ammonia were not available, further elucidation of this mechanism was prevented. The urine reaction, however, was acid on the three occasions this factor was determined. This observation, coupled with one determination of a normal carbon dioxide combining power, would make it seem that the carbonic anhydrase and ammonia production buffer mechanisms were operative.

Without the therapist's knowledge of the coincidental cessation of hypernaturia, an oral supplementary program of 6 gm. of salt a day was instituted. That the tubular salt resorbtion function had by then been restored became acutely apparent when serum sodium determination 72 hours later showed a content of 163 mg. per 100 cc. The onset of edema was noted at that time. Indirect evidence that the anatomic integrity of the tubular cells and basement membrane were maintained can be seen in the blood urea nitrogen content: After the rise to 29 mg. per 100 cc. on the first postoperative day, it did not exceed 15 mg. per 100 ml. at any of many times determined.

The initial diagnostic complexity of what appeared to be a pure form of salt-losing nephritis made adrenal cortical and posterior pituitary hormonal studies mandatory. From the first reported cases by Thorn, Koepf and Clinton[13] in 1944 stemmed general recognition of the syndrome that they called "salt-losing nephritis." It was characterized by the systemic symptoms of a chronic urinary salt loss—loss of weight, asthenia and hypotension progressing to edema hypertension, nitrogen retention and cardiac failure. In pathological examination of the kidneys in a number of subsequent cases, no specific tubular changes were noted, but in almost all the changes of chronic pyelonephritis were observed.[3,7] It was found that the symptoms and the rate of progression of the intrinsic renal disease could be greatly decreased by giving supplementary sodium chloride and sodium bicarbonate. Of critical importance was the observation that despite the decided clinical resemblance to a deficiency of adrenal cortical hormone, the condition was refractory to these substances and was related to a primary renal tubular disorder. Hence the desoxycorticosterone acetate test for differentiation.

In the present case it was difficult to rule out a type of acute transient cerebral salt-wasting syndrome that is known to be associated with severe hypertension occurring with cerebral neoplasms, infections, severe encephalomalacia and trauma.[1,11,14] However, rarely in that condition is the condition abruptly self-limited as it was in the present case.

SUMMARY

A case of an acute postoperative reversible water-losing and then salt-losing renal insufficiency is presented. It appeared to be owing to a phasic specific defect of the renal tubule cells that at first prevented the reabsorption of water and later the reabsorption of sodium and chloride.

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California MEDICINE

For information on preparation of manuscript, see advertising page 2

EDITORIAL

"MD-Plan 65"

JUNE IS THE enrollment month for California Physicians' Service "MD-Plan 65."

This is the plan designed to provide professional services for people of 65 years of age or more, a voluntary plan which has been approved by the House of Delegates of the California Medical Association, the Trustees of California Physicians' Service and representatives of several organized groups of our older citizens.

On a pilot basis, C.P.S. this month will accept applications for medical and surgical services from the older age group and the physicians of California will agree to provide their services under a lowered schedule of fees supplemented by co-payments by beneficiary members.

The plan being offered will cover professional services only, since these are the only services the physicians are able to supply under their own control. Hospital, drug, appliance and other costs will not be included.

In broad terms, the plan proposes to meet the costs of home, office and hospital visits by physicians on the aged participants, the plan paying on the basis of 60 per cent of the usual fees which would result from application of a factor of five to the Relative Value Study. The patient will be asked to supplement this reduced fee by paying $1 for each visit; the physician contributes by dropping the other dollar from his usual fee.

The co-payment by the member is intended to curb any abuse or overuse of the plan and to keep the member conscious of his own obligation to make the program work. This payment will be collected only for physicians' visits, x-rays and laboratory work, and will not be expected if the service rendered is a surgical procedure or is x-ray therapy for cancer.

Another factor in the co-payment arrangement is that such payments will be asked only where the individual member has an annual income below $3,000 for a single person or $4,500 for a family. If the annual income is above those limits, the physician will be entitled to collect from the patient the difference between the payment made by C.P.S. and the usual fee for the same service. It is anticipated that most persons who purchase this service will be below the income ceilings.

Professional services will be supplied for all conditions, with the single exception that a six-month waiting period will be enforced for preexisting conditions or those for which the patient has received services within six months preceding his enrollment in the program. Where the subscriber carries additional insurance, a system of subrogation of costs will be provided.

The above detail is given as an indication of the care with which the Board of Trustees of C.P.S. has approached the problem of meeting the medical care need of older people on an empirical basis. As has been pointed out here before, experience tables for this age group are, at the best, skimpy; present health insurance plans have tended to eliminate members when they reach age 65.

With experience still an unknown factor, and with enrollment figures unknown while the initial enrollment period is open, officials of C.P.S. and C.M.A. alike are at work on the question of how the program is to be financed. If utilization of services soars to unexpected heights, who is to meet the cost of the payments guaranteed by C.P.S. to participating physicians? This question has brought forth the moral obligation of the entire profession to meet such costs, if they do arise, rather than placing the load on those physicians who provide the service. In short, this is a professional obligation rather than a personal one.

Financial committee members of C.P.S. and C.M.A. are working on this problem in an effort to work out a method of subsidizing possible losses on the program and to minimize or eliminate the use of trust funds which are held by both bodies for the

benefit of physician members and a large segment of the public.

Inauguration of the "MD-Plan 65" follows by only a few months the discussions by the American Medical Association in Minneapolis which led to the A.M.A.'s urging all component associations to work out methods of providing care for the needy aged. Other states are at work on the same problem and, obviously, California's experiment will be carefully watched nationwide.

The term "needy aged" as used here is intended to denote the two aspects of the problem, namely, that the patient be both of a minimum age and in financial need. A current tendency, noted especially among some do-gooders, is to drop the word "needy" when referring to this group of citizens and to concentrate only on the word "aged." It takes little imagination to visualize the ridiculous situation which could result from this philosophy, where persons of considerable means would become the objects of special beneficence simply because they had passed the three-score-and-five mark. On the other hand, those who are in financial need and have reached an age level where their earnings are reduced or cut off are suitable for sympathetic professional consideration. The medical profession in this instance is following its hallowed tradition of easing or eliminating the financial burden for those who cannot assume the normal costs of medical care.

When the C.M.A. met in annual session last February and voted to inaugurate this new plan, the metropolitan press was most complimentary. It praised medicine for taking this forward step but, with tongue in cheek, stated that it remained to be seen how this program would work out in practice. We shall now see.

Cancer Control

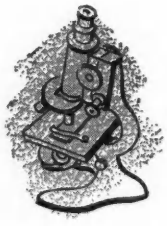
WITH THE PASSAGE of cancer control legislation, the Legislature of the State of California has taken a giant stride in protecting a desperate and therefore gullible segment of the public against the many forms of cancer quackery which have sprung up in recent years.

Cancer is so dreaded by its victims, either actual or potential, that it has offered a wide field of exploitation for promoters with an eye on the fast buck rather than the patient. Drugs, machines, diet regimes and other forms of therapy have been promoted by unscrupulous individuals who prey on their victims with all the devices formerly looked for in the itinerant medicine man. Fear, testimonials, hope and cash are the ingredients of this quackery, mingled in appropriate amounts to effect a sale.

California will now have a scientific body for testing any therapy which is advanced for the treatment of cancer. This group, to be composed mainly of physicians, will have adequate testing facilities at its command. If tests prove the therapy to be useless, the council will be able to issue cease and desist orders and, if these orders are ignored, to go into court to stop nefarious practices.

The new law could be somewhat stronger, some observers believe. However, it is a big step in the right direction and the opportunity will remain to add bolstering amendments if they are proved to be necessary.

Here is one law passed by the representatives of the people for the protection of all their constituents. The California Medical Association, American Cancer Society and their allies are to be praised for their fight in behalf of such a good law.



Annual Meeting

Ambassador Hotel

LOS ANGELES

February 21 to 24, 1960

Papers for Presentation

If you have a paper that you would like to have considered for presentation, it should be submitted *to the appropriate section secretary* (see list on this page) no later than August 21, 1959.

Scientific Exhibits

Space is available for scientific exhibits. If you would like to present an exhibit, please write immediately to the office of the California Medical Association, 450 Sutter Street, San Francisco 8, for application forms. To be given consideration by the Committee on Scientific Work, the forms, completely filled out, must be in the office of the California Medical Association no later than September 1, 1959. (No exhibit shown in 1959, and no individual who had an exhibit at the 1959 session, will be eligible until 1961.)

Medical Motion Pictures

The daytime Film Symposiums which proved so popular during the 1959 sessions will be continued in 1960. Evening film programs will be planned for doctors, their wives, nurses and ancillary personnel.

Authors desiring to show films should send their applications to Paul D. Foster, M.D., California Medical Association, 2975 Wilshire Blvd., Los Angeles 5. All authors are urged to be present at the time of showing as there will be time allotted for discussion and questions from the audience after each film.

Deadline is October 1, 1959.

PLANNING MAKES PERFECT
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SECRETARIES OF SCIENTIFIC SECTIONS

ALLERGY . . . . **Gardner S. Stout, Acting Secretary**
39 North San Mateo Drive, San Mateo

ANESTHESIOLOGY . . . . . **Roger W. Ridley**
5914 Birch Street, Riverside

DERMATOLOGY AND SYPHILOLOGY . **Edward L. Laden**
301 North Prairie Avenue, Inglewood

EAR, NOSE AND THROAT . . . **Heinrich W. Kohlmoos**
426 17th Street, Oakland 12

EYE . . . . . **Earle H. McBain**
1530 Fifth Avenue, San Rafael

GENERAL PRACTICE . . . . . **Floyd K. Andersen**
1233 North Vermont, Los Angeles 29

GENERAL SURGERY . . . . . **Philip R. Westdahl**
490 Post Street, San Francisco 2

INDUSTRIAL MEDICINE AND SURGERY . **Robert C. Rossberg**
1660 South Alameda Street, Los Angeles 21

INTERNAL MEDICINE . . . . **Charles D. Armstrong**
1111 University Drive, Menlo Park

OBSTETRICS AND GYNECOLOGY . **John C. McDermott**
2010 Wilshire Boulevard, Los Angeles 57

ORTHOPEDICS . . . . . **Carl E. Horn**
2901 Capitol Avenue, Sacramento 16

PATHOLOGY AND BACTERIOLOGY . . **Robert L. Dennis**
675 East Santa Clara Street, San Jose 12

PEDIATRICS . . . . . **James L. Dennis**
5105 Dover Street, Oakland 9

PHYSICAL MEDICINE . . . . **Joseph E. Maschmeyer**
1720 Brooklyn Avenue, Los Angeles 33

PSYCHIATRY AND NEUROLOGY . . **Leon J. Whitsell**
909 Hyde Street, San Francisco 9

PUBLIC HEALTH . . . . . **Merle E. Cosand**
316 Mountain View Avenue, San Bernardino

RADIOLOGY . . . . . **Frank C. Binkley**
635 East Union Street, Pasadena 1

UROLOGY . . . . . **Morrell E. Vecki**
450 Sutter Street, San Francisco 8

California MEDICAL ASSOCIATION

NOTICES & REPORTS

C.P.S. Medical Care Plan for "Over 65"

As requested by the C.M.A. House of Delegates at their 1959 annual meeting, C.P.S. has "proceeded with all speed" in developing and selling an experimental health plan for persons 65 years of age and over.

On June 1, C.P.S. offered throughout California the "MD-Plan 65" for persons 65 and over who reside in the state. Enrollment will continue until midnight June 30 and protection will start for all enrolled members on July 1, 1959.

Benefits of the plan are in line with those authorized by the House of Delegates in accepting the recommendations contained in the report of the C.M.A. Special Committee on needs of the aging. These benefits are listed in the adjoining box. The price of the plan for subscribers is $6.90 a month for men and $7.90 for women.

A new approach was taken in establishing benefits and rates of this test program. Recognizing the medical requirements of persons 65 and over, the House of Delegates approved the recommendation that physician members provide their services at lower than usual fees and that provision be made for out-patient benefits which are not offered by any other plan. No contract provision was made for hospitalization, nursing care or drugs because these services cannot be provided by physicians at reduced costs.

C.P.S. fees for this program are in accordance with the action of the House of Delegates which approved a schedule based on 60 per cent of the $5 conversion factor of the C.M.A. Relative Value Study ($3 per unit).

Co-Payment Principle

The co-payment principle is being introduced into this program to control costs. This means that, in addition to the C.P.S. payment to physicians, members of the "MD-Plan 65" will make a co-payment of $1 per unit for visits, for x-ray examinations and for laboratory services. Co-payments are *not* required for surgical operation of any kind or for x-ray therapy for cancer.

All "MD-Plan 65" members are notified of the co-payment principle. Whether or not this deterrent to needless use of benefits will have the intended effect will depend largely upon the physician's co-operation in collecting the co-payment from the member as part of his fee.

Before the effective date of contract benefits, July 1, medical assistants should be advised of the need to request this co-payment. Each member will be identified by a special green identification card marked "MD-Plan 65." When such a card is presented, the medical assistant should remind the member of the co-payment required.

Income Provisions

The co-payment should be collected from all C.P.S. "MD-Plan 65" members whose annual gross income is $3,000 or less for a single person or $4,500 or less for a married couple. (It is expected that most persons purchasing this coverage will have incomes below these levels.)

Members whose annual incomes are higher than these amounts may be charged the difference between the C.P.S. payment and the physician's usual fee. In this case, however, fees should be discussed in advance of service.

Waiting Period

The majority of members will be entitled to all contract benefits effective July 1. The contract year mentioned in the benefits is for 12 months starting with the effective date. There will be a six-month waiting period, however, for service benefits on any existing condition for which the member has received medical treatment or advice during a six-month period preceding his membership.

Exclusions are generally the same as those which apply to other C.P.S. contracts.

No individual member of this plan will have his contract terminated or have his benefits or rates changed unless all other members of "MD-Plan 65" are likewise affected.

Other Coverage

A member of the "MD-Plan 65" may not hold any other C.P.S. contract. If the member is covered by a *commercial* insurance company, C.P.S. will pay for contract benefits but the physician need not accept C.P.S. fees as full payment. C.P.S. will not pay for the *same* services received as benefits from any other *service* plan.

Information to Members

In addition to the membership card and service agreement (contract), each "MD-Plan 65" member will receive a booklet fully describing the coverage, requirements and procedures of the contract, and a folder giving examples of co-payments.

Members will pay C.P.S. monthly by mailing their remittance with billing cards which are sent to them in advance. If a member fails to pay his dues in time (a 10-day grace period is being allowed), his membership will be dropped and reinstatement will not be possible until another enrollment period is announced. No further enrollment period is anticipated until experience on this program has been gained.

Information to Physicians

Representatives of C.P.S. physician relations department will be glad to assist any physician or medical assistant who has questions on this program.

It is the hope of the Special Committee of the C.P.S. Board of Trustees that this test program may lead to a new answer to the problem of caring for the aged—medicine's answer, rather than the government's.

BENEFITS OF "MD-PLAN 65"

SURGICAL BENEFITS (for Illness or Injury)

YOUR PLAN provides surgical benefits *as often as needed in or out of the hospital* for:

- **Operations involving cutting.**
- **Repair of fractures, dislocations, wounds and burns.**

Benefits include separate payments for services of the following:

- **Surgeon**
- **Assistant surgeon**
- **Anesthetist**

PHYSICIAN VISITS IN THE HOSPITAL (for Illness or Injury)

YOUR PLAN provides payments to physicians for the following services *up to 31 days each contract year:*

- **Visits to the hospital as required, beginning with the first call.**
- **Extra time spent when a physician is detained to treat a member in critical condition.**
- **Services of consultants when requested by your physician.**
- **Necessary preoperative and postoperative treatment.**
- **X-ray or radium therapy for cancer or other malignancies.**

HOME AND OFFICE VISITS (for Illness or Injury)

YOUR PLAN provides payments for services of physicians *up to 50 visits each contract year,* including payments for the following:

- **Visits in the physician's office or your home, beginning with the first visit.**
- **Extra time spent when a physician is detained to treat a member in critical condition.**
- **Services of consultants when required and requested by your physician.**
- **Necessary preoperative and postoperative treatment.**
- **X-ray or radium therapy for cancer or other malignancies.**

DIAGNOSTIC X-RAY AND LABORATORY SERVICES

YOUR PLAN provides for payments in accordance with the fee schedule *up to $50 each contract year* for out-patient diagnostic x-ray examinations and laboratory services.

Council Meeting Minutes

Tentative Draft: Minutes of the 448th Meeting of the Council, Rickey's Inn, Palo Alto, April 11, 1959.

The meeting was called to order by Chairman Lum at Rickey's Inn, Palo Alto, California, on Saturday, April 11, 1959, at 9:30 a.m.

Roll Call:

Present were President Reynolds, President-Elect Foster, Speaker Doyle, Vice-Speaker Heron, Editor Wilbur, Secretary Hosmer and Councilors MacLaggan, Wheeler, Todd, Quinn, O'Neill, Kirchner, O'Connor, Shaw, Gifford, Davis, Sherman, Campbell, Lum, Bostick and Teall. Absent for cause, Councilor Harrington.

Present by invitation were Messrs. Hunton, Clancy, Thomas, Whelan, Collins, Marvin and Edwards of C.M.A. staff; Messrs. Hassard and Huber of legal counsel; county society executives Scheuber of Alameda-Contra Costa, Grove of Monterey, Rosenow and Pettis of Los Angeles, Bannister of Orange, Brayer of Riverside, Donmyer of San Bernardino, Nute of San Diego, Neick of San Francisco, Thompson of San Joaquin, Donovan and Colvin of Santa Clara and Dermott of Sonoma; Doctor Marshall Porter of the State Department of Mental Hygiene; Doctor Fred Kriete of the State Department of Public Health; Doctor A. E. Larsen and Mr. Richard Lyon of California Physicians' service; Doctors Lucius Button, Cedric Johnson and Robert Butler of Sonoma County; Doctor Edward Liston of Santa Clara County; and Doctors W. F. B. Harding, J. Lafe Ludwig, Francis E. West and John Rumsey.

The chairman introduced Dr. Matthew N. Hosmer, newly appointed secretary. The chairman also expressed thanks to the Santa Clara County Medical Society for the arrangements made for the meeting.

1. *Minutes for Approval:*

On motion duly made and seconded, minutes of the 447th meeting of the Council, held March 14, 1959, were approved.

2. *Membership:*

(a) A report of membership as of April 9, 1959, was presented and ordered filed.

(b) On motion duly made and seconded, 101 delinquent members whose dues had been received were voted reinstatement.

(c) On motion duly made and seconded in each instance, four applicants were voted Retired Membership. These were: Harry W. Murphy, Los Angeles County; Ambrose E. Edgerton, San Francisco County; Herbert S. Chapman, San Joaquin County, and Merlin T. R. Maynard, Santa Clara County.

(d) On motion duly made and seconded in each instance, 23 applicants were voted Associate Membership. These were: Joseph R. Bateman, William R. Haas, Pearl A. Williams, Alameda-Contra Costa County; Otto Arndal, Milton R. Cohen, Edgar E. Hamer, L. T. Lawrence, Jr., Harold L. Snow, Los Angeles County; Ernest V. Orsborn, Napa County; Paul G. Buss, Orange County; Wallace R. Holter, Pearson C. Kellogg, Sacramento County; George M. Davies, Elvin C. Hedrick, San Bernardino County; John M. Murphy, San Diego County; Joseph Di Caprio, John J. Hutchings, William Mandel, Manuel L. Weber, San Francisco County; Arthur W. Anderson, Russell L. Gould, Santa Clara County; W. H. Lorack, Ventura County, and M. L. Young, Ventura County.

(e) On motion duly made and seconded, reductions in dues were voted for 18 members because of illness or postgraduate studies.

3. *Reports of Officers:*

(a) President Reynolds reported on several meetings he had attended recently, especially that of the ad hoc Committee on Problems of the Aging. He recommended that the present ad hoc committee continue as consultants in this field for the next month, at which time the committee would cease and its business turned back to the Council. On motion duly made and seconded, this action was approved.

(b) Speaker Doyle reported that he had not yet received nominees from all councilor districts for members of a committee to prepare a format for a vote on Social Security inclusion of physicians but that he proposed to appoint this committee at the earliest possible date.

4. *Financial:*

Chairman Heron of the Committee on Finance presented a report on bank balances, loans, etc., as of April 9, 1959, which was ordered filed.

Mr. Hunton sought instructions on the inclusion of Association officers in the 1959 A.M.A. annual session; it was agreed that the authorized officers should attend this session.

The chairman reported that Pacific Magnetic Tape Equipment Co., a wholly-owned subsidiary, has paid a dividend of $900 on the stock owned by the Association.

Dr. Heron reported that the Finance Committee had reviewed the request of Physicians Aid of Los Angeles for a loan to aid in construction of a nursing home and the request was being presented to the Council without recommendation.

On motion duly made and seconded, it was voted to request the Board of Trustees of Physicians Benevolence Fund, Inc., to make a loan of $50,000, under proper security and at an annual interest rate of 2½ per cent, to Physicians Aid.

On motion duly made and seconded, it was voted to request Physicians Aid to lend assistance to the

Council or to county medical societies in the establishment of facilities for the care of needy physicians or their families in other areas.

5. *California Medicine:*

Editor Wilbur requested the appointment of Dr. Don King of San Francisco as a member of the Editorial Board of CALIFORNIA MEDICINE for orthopedic surgery, to succeed the late Frederick C. Bost. On motion duly made and seconded, the appointment was approved.

6. *Commission on Medical Services:*

Councilor Sherman, chairman of the Liaison Committee with the State Department of Public Welfare, gave a progress report for the committee.

Dr. John F. Murray, chairman of a subcommittee on medical foundations, presented, through the chairman, a report by the committee on its recent activities.

7. *Commission on Public Agencies:*

Councilor Bostick reported that the school health conference planned for late April had been put over until fall because of meeting conflicts.

Dr. Bostick also reported that the commission was maintaining surveillance over the problems of radiation.

Dr. Bostick also reported that the commission was working on the problem of separating professional from hospital services under the Crippled Children's Program. On motion duly made and seconded, it was voted to refer this matter to the joint committees of the Association and the California Hospital Association for prompt action.

8. *Commission on Community Health Services:*

Councilor MacLaggan reported that the Commission on Community Health Services had scheduled a meeting at which a quorum was not present. Those present discussed the resolutions on exfoliative cytology adopted by the 1959 House of Delegates and a report on this discussion is to be circulated to the members of the commission and, with their approval, presented to the Council.

9. *Commission on Public Policy:*

(a) Dr. J. Lafe Ludwig, representing the Committee on Legislation, reported on several bills now before Congress.

Mr. Salisbury reported on several bills pending before the State Legislature. Relative to Senate Bill No. 100, a bill to provide for control by the State Insurance Commissioner of all service contracts for health and welfare benefits, it was regularly moved, seconded and voted to authorize the Committee on Legislation, working with legal counsel to act as required in consultation with the Committee for Emergency Action.

Councilor Quinn proposed that the Council support Assembly Bill 847, relative to court-appointed expert medical witnesses. On motion duly made and seconded, it was voted to instruct the Committee on Legislation to support this proposal.

Mr. Huber reported that a bill had been drafted and introduced in conformity with Resolution No. 53 of the 1959 House of Delegates, relating to unprofessional conduct.

On a proposal that the Committee on Legislation be authorized to discuss with representatives of the Legislature and with state officials the types of fee schedules and insurance programs that might be used by the state in budgeting funds, it was regularly moved, seconded and voted that such authority be granted, the Committee on Legislation to work with the Committee for Emergency Action and such others as that committee might name.

On motion duly made and seconded, it was voted to approve a proposal that a five-man liaison committee of the Commission on Medical Services be established with authority to offer its services to the Vocational Rehabilitation Service and the regional representatives of the Bureau of Old Age and Survivors' Insurance as a liaison group for the Council.

(b) Dr. Malcolm S. M. Watts, chairman of the Committee on Public Relations, reported that the committee had met the preceding evening and had recommended that one or more field representatives be employed to keep county medical societies advised on the progress of federal legislation. On motion duly made and seconded, it was voted to refer this proposal to the Committee on Legislation for further study and report to the Council.

Dr. Watts reported on Resolution No. 37 of the 1959 House of Delegates, which called for a study of the cost of medical care under government auspices to the taxpayer. The committee did not feel adequately equipped to handle such a study. On motion duly made and seconded, it was voted to refer this matter to the Commission on Medical Services.

Dr. Watts also reported that a television program in the San Francisco Bay Area which had been regarded as an excellent public relations medium, is about to be discontinued because of lack of sponsorship. On motion duly made and seconded, it was voted to encourage programs of this type under the sponsorship of county societies or other sponsors approved by them.

Councilor Gifford offered several suggestions for public relations activities, which he will forward to the Committee.

10. *Commission on Professional Education:*

Dr. Albert C. Daniels, chairman of the Committee on Scientific Work, reported on a meeting of the committee, at which several suggestions were made

for improving the scientific content of the Annual Session. Among these were (1) changes in the meeting dates of the House of Delegates, to allow three days between sessions, possibly meeting Saturday evening, Sunday morning and Wednesday or on Saturday-Wednesday or Sunday-Thursday; (2) a return to February meeting dates as a means of avoiding conflicting meetings which detract from the scientific program and from attendance; and (3) elimination of the annual President's Dinner or combining it with activities of the Woman's Auxiliary.

11. *Commission on Professional Welfare:*

Councilor Kirchner, chairman of the Medical Review and Advisory Board, reported that the board was planning to set up a fact-finding and educational program to determine the coverage for professional liability carried by members and to educate members in the need of adequate coverage. He cited samplings which indicated inadequate coverage or lack of coverage in some areas. Further report will be made to the Council.

12. *State Department of Public Health:*

Dr. Fred Kriete reported that the State Department of Public Health had investigated several cases where excessive radiation had been found in shipments of tuna fish, tea and other items. He requested Association support of the department's request for funds to study and control radiation hazards.

Dr. Kriete also reported that paralytic poliomyelitis cases were running about 50 per cent higher than in 1958 but still below the 1957 level. Studies by the department indicate that half the children in California below age five have had no poliomyelitis inoculations.

13. *State Department of Mental Hygiene:*

Dr. Marshall Porter reported that 12 California areas have now established mental health centers under terms of the Short-Doyle Act and that, under the terms of the law, the advisory board to the Department of Mental Hygiene will consist of representatives of these areas. Prior to this time the advisory board was the California Conference of Local Health Officers.

14. *Commission and Committee Activities:*

Councilor Teall raised the question as to where the authority rested to assure activities by the commissions and committees. It was regularly moved, seconded and voted that the chairman appoint a small committee to consider this matter, the President, President-Elect, Council Chairman and Speaker to be included.

15. *Committee on Nominations:*

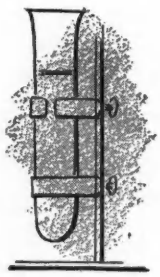
Councilor Bostick, chairman of the Committee on Nominations, requested that Drs. Arlo A. Morrison and John B. deC. M. Saunders be appointed members of the Bureau of Research and Planning. On motion duly made and seconded, these appointments were voted.

On recommendation of the committee, and on motion duly made and seconded, Dr. Sol R. Baker of Beverly Hills was voted appointment as a member of the Advisory Committee to the Cancer Commission.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 4:20 p.m.

DONALD D. LUM, M.D., *Chairman*
MATTHEW N. HOSMER, M.D., *Secretary*



Alson R. Kilgore, M.D.

THE YEAR was in the early 1930's, the time of day about 8 p.m., and Lane Hall was well filled. A slender figure in dinner jacket commenced to speak on "Modern Aspects of Cancer Diagnosis and Therapy." He spoke for exactly 60 minutes, without notes, and with but a modicum of lantern slides. His lecture was clear, complete and delivered with the modesty of an able man. This was my own introduction to Alson Kilgore as a teacher, and the first of many of his lectures which I was privileged to hear. The applause and appreciation were as sincere then as on the many other occasions.

Born in Oakland in 1887, Dr. Kilgore graduated from the University of California in 1909 and the Harvard Medical School in 1913. Following a surgical residency at Parnassus Heights, he spent three years in China under the auspices of the Rockefeller Foundation. On his return, he served in the United States Navy in World War I and then had a year as teacher at Johns Hopkins Medical School.

Returning to San Francisco in 1920, Dr. Kilgore developed an extensive surgical practice, coupled with outstanding work in the organizational phases of his profession. The appreciation of his efforts resulted in his election to offices in his county and state medical societies, to the founding membership of the Cancer Commission, of the Public Health League, of the California Physicians' Service and of many other outstanding organizations.

To appreciate the greatness and catholicity of this man it may be worth recapitulating some of the many professional, organizational and personal aspects of his career.

In his chosen specialty, his work as a surgeon was noteworthy and recognized in many ways. He was for a long time Clinical Professor of Surgery on the University of California staff, and his lectures in surgical pathology at the San Francisco Hospital attracted a wide audience of students. He published numerous papers, one valuable series dealing with problems pertaining to diseases of the female breast. His work resulted in his being elected chief surgeon for the Western Pacific Railroad, chief of staff at the St. Joseph's Hospital, San Francisco, and innumerable other societies such as the American Surgical Association, the American College of Surgeons and various local and state surgical bodies. He was one of the founders of the American Board of Surgery. He fought cancer quackery without fear and faced a colossus of Hyde Street when the latter persisted in the adrenal cortex "treatment" of cancer after its ineffectiveness had been established.

In his organizational work, he led in the development of the Medical Economics Study Group of San Francisco, the Health Section of the Commonwealth Club, the first Blue Shield Plan of California and one of the first prepaid hospital plans. At the same time that he was investigating and lecturing on surgical advances in cancer, he was investigating means for the better distribution of medical and hospital services. With the late equally distinguished T. Henshaw Kelly and Morton R. Gibbons, he became one of the pioneer "Triumvirs of Health Insurance." Indeed, he was nationally recognized in this field 21 years ago.

His personal hobbies included sailing, fishing and the gentle mathematics of white spots on a black background. He was a collector of fine printings, such as those of John Henry Nash and the Grabhorn Brothers. When he finally laid down his scalpel a few years ago, he extended his mathematical investigations into the Dow theory of oscillations, exhibiting the same enthusiasm and proficiency in the estimation of daily stock market averages as he had in the evaluation of common medical and economic problems.

Alson Kilgore concealed a tense and healthy discontent under a calm exterior. I personally never heard him raise his voice in the surgical suite or in the clinic. He achieved compliance and cooperation with quiet authority and pervading kindness. At tumor conferences and ward rounds he was charitable to a fault, but when methods were persistently slipshod he took firm steps to have the offender educated or relieved of his responsibility.

It has been said that there can be no greatness without abandonment, and I believe it fair to say that Alson abandoned himself to the improvement of medical practice and especially to the improvement of surgery to an almost unique degree. One of the many living tributes to his work is the Cancer Commission of the California Medical Association. Many western physicians do not know that this body is nationally recognized for its work in improving and aiding education, service and research in the field of cancer. An additional indication of his interest in this field was the published request of his family that those desiring to send appreciations may, if they wish, do so in the name of the St. Joseph's Hospital Cancer Fund, San Francisco. Dr. Kilgore died at St. Joseph's Hospital on May 20, 1959.

"Truly the light is sweet, and a pleasant thing it is for the eyes to behold the sun." To his widow and the other members of his family the members of this Association extend their deep gratitude and their sincere sympathy. California and American medicine owe much to this great man.

L. HENRY GARLAND

In Memoriam

ALEXANDER, ROBERT BERTHOD. Died in San Francisco, April 19, 1959, aged 65, of heart disease. Graduate of Schlesiche-Friedrich-Wilhelms-Universitat Medizinische Fakultat, Breslau, Prussia, 1925. Licensed in California in 1940. Doctor Alexander was a member of the San Francisco Medical Society.

✤

ASHCROFT, FELIX E. Died December 30, 1958, aged 87. Graduate of Rush Medical College, Chicago, Illinois, 1901. Licensed in California in 1901. Doctor Ashcroft was a retired member of the San Diego County Medical Society and the California Medical Association, and an associate member of the American Medical Association.

✤

BEAUCHAMP, HARRY H. Died in Sacramento, January 21, 1959, aged 86. Graduate of Miami Medical College, Cincinnati, Ohio, 1904. Licensed in California in 1906. Doctor Beauchamp was a retired member of the Sacramento Society for Medical Improvement and the California Medical Association, and an associate member of the American Medical Association.

✤

FRITSCHI, ULRICH A. Died in Sacramento, April 5, 1959, aged 51, of carcinoma of the esophagus. Graduate of University of California School of Medicine, Berkeley-San Francisco, 1941. Licensed in California in 1941. Doctor Fritschi was a member of the Sacramento Society for Medical Improvement.

✤

HANE, RICHARD LINCOLN. Died in Monterey, January 25, 1959, aged 58. Graduate of Ohio State University College of Medicine, Columbus, Ohio, 1924. Licensed in California in 1946. Doctor Hane was a member of the Monterey County Medical Society.

✤

JOHANNESEN, ROBERT EASTNOR. Died in Altadena, April 2, 1959, aged 61. Graduate of Rush Medical College, Chicago, Illinois, 1928. Licensed in California in 1945. Doctor Johannesen was a member of the Los Angeles County Medical Association.

✤

KILGORE, ALSON R. Died in San Francisco, May 20, 1959, aged 72. Graduate of Harvard Medical School, Boston, 1913. Licensed in California in 1914. Doctor Kilgore was a retired member of the San Francisco Medical Society and the California Medical Association, and an associate member of the American Medical Association.

KORAVKO, MSTISLAV KLEMENT. Died in San Francisco, April 13, 1959, aged 70. Graduate of University of Moscow Faculty of Medicine, Moscow, Russia, 1919. Licensed in California in 1932. Doctor Koravko was a member of the San Francisco Medical Society.

✤

KRACAW, FOREST CHARLES. Died in Oakland, April 6, 1959, aged 67. Graduate of Marquette University School of Medicine, Milwaukee, Wisconsin, 1916. Licensed in California in 1919. Doctor Kracaw was an Associate Member of the Alameda-Contra Costa Medical Association.

✤

LONG, JOHN BRADLEY. Died April 9, 1959, aged 36, of cancer. Graduate of New York University College of Medicine, New York, 1946. Licensed in California in 1951. Doctor Long was a member of the San Francisco Medical Society.

✤

MCNEIL, DONALD. Died in San Francisco, February 23, 1959, aged 61, of heart disease. Graduate of Harvard Medical School, Boston, Massachusetts, 1926. Licensed in California in 1931. Doctor McNeil was a member of the Sacramento Society for Medical Improvement.

✤

MUNFORD, RAYMOND HUNTER. Died April 15, 1959, aged 80. Graduate of Kansas Medical College, Topeka, Kansas, 1907. Licensed in California in 1924. Doctor Munford was a member of the Orange County Medical Association.

✤

NEVIN, JOHN LEWIS. Died in San Bernardino, April 7, 1959, aged 67. Graduate of State University of Iowa College of Medicine, Iowa City, Iowa, 1918. Licensed in California in 1927. Doctor Nevin was a member of the San Bernardino County Medical Society.

✤

NEWELL, EDWARD. Died in San Jose, April 21, 1959, aged 85. Graduate of College of Physicians and Surgeons of San Francisco, 1905. Licensed in California in 1905. Doctor Newell was a retired member of the Santa Clara County Medical Society and the California Medical Association, and an associate member of the American Medical Association.

✤

SCOTT, RAYMOND ROBERT. Died in Selma, December 1, 1958, aged 59, of cerebral vascular accident. Graduate of Stanford University School of Medicine, Stanford-San Francisco, 1926. Licensed in California in 1926. Doctor Scott was a member of the Fresno County Medical Society.

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, *M.D., M.P.H.*
Director, California State Department of Public Health

THE PROMPT RECOGNITION of fungus infections was emphasized at a three-day workshop in which local health department representatives and state college instructors learned methods of working with and identifying fungi of medical importance.

With the increasing widespread use of antibiotics the problem of secondary fungus infections is coming more into prominence. The ability of local microbiologists to recognize specific types of fungus infections will contribute to the better control of epidemic types of fungus disease through proper lines of treatment.

The course was conducted by the staff of the department's Microbiology Laboratory, assisted by Dr. Lucille Georg of the U. S. Public Health Service.

* * *

A $200,000 federal grant for a three-year study of the drinking habits of Californians has been awarded the department. The project, financed by the National Institute of Mental Health, will be the first of its kind in the United States and will be concerned with finding ways to determine how and why people drink and how drinking practices are related to everyday life.

Types of information sought will include kinds, amounts and frequency and regularity of ingestion of alcohol, the context of drinking (places, companions, rituals), reasons for drinking, attitudes about conditions attending drinking (driving, teenage, business lunches), individual and group consequences of drinking, and sub-populations which use alcoholic beverages, with special attention to teenage drinking.

* * *

The department's Advisory Committee on Air Sanitation met April 28 in Los Angeles to review the subject of air standards for atmosphere and motor vehicle exhausts.

An early consideration of this matter was important because of the Governor's program in air pollution, the pending legislation requiring this department to establish standards, and the short period of time that will be available to develop such standards before February 1, 1960.

* * *

Influenza has become increasingly prevalent in California since it first made its appearance in significant numbers in mid-February. The high school population has been the most affected so far.

In a two-week period in late April and early May, deaths from influenza and pneumonia were above the epidemic threshold, according to reports from eight California cities. There were 64 such deaths during this period April 24 to May 8. This compares with 110 deaths reported from these cities during a period of two weeks at the peak of the previous epidemic in December, 1957.

* * *

On April 17 the State Board of Public Health adopted regulations relating to the operation of Human Tissue Banks and other tissue preservation services. These are the first such regulations to be established in the nation.

* * *

A regional school nursing institute for representatives of seven mountain counties was held recently in Redding, co-sponsored by this department and the State Department of Education.

Discussion topics included health counseling, mental health in school health service, functions of school nurses in elementary and secondary schools, control of communicable diseases, nuisance diseases, and legal problems relating to school health.

Participating in the institute were physicians in private practice, school administrators and supervisors, school nurses, a clinical psychologist, health officers, housewives and public health nurses. They represented the counties of Lassen, Modoc, Plumas, Shasta, Siskiyou, Tehama and Trinity.

NINTH ANNUAL
REGIONAL POSTGRADUATE INSTITUTE
SACRAMENTO VALLEY COUNTIES

Presented by Committee on Postgraduate Activities of the California Medical Association, in cooperation with the Sacramento Valley County Medical Societies and University of Southern California School of Medicine, Phil R. Manning, M.D., Assistant Professor of Medicine; Associate Dean Postgraduate Division.

Tahoe Tavern, Lake Tahoe

JUNE 25 AND 26, 1959

PROGRAM

LECTURES—THURSDAY, JUNE 25

9:00 a.m.—The Third Compartment—Clarence J. Berne, M.D.

"... but if the water come to him and drown him, he drowns not himself."

10:00 a.m.—Glaucoma in General Practice with Display Techniques—Introduction by John Berg, M.D., Richard L. Kasper, M.D.

"... He that is stricken blind cannot forget the precious treasure of his eyesight lost."

11:00 a.m.—Advances in the Office Diagnosis of Diseases of the Ear—Alden H. Miller, M.D.

"... Vexing the dull ear of a drowsy man."

12:00 to 2:00 p.m.—Lunch.

2:00 p.m.—Drugs and the Patient's Pocketbook—Phil R. Manning, M.D., Donald W. Petit, M.D.

"... Rob me the exchequer."

3:00 p.m.—Commonly Overtreated Pediatric Variations—William H. Bucher, M.D.

"... Nature hath framed strange fellows in her time."

8:00 p.m.—Dinner, Professional Entertainment and Informal Dancing to follow.

CONCURRENT SEMINARS—THURSDAY, JUNE 25

Panel 1—GREEN ROOM

10:00 a.m.—Seminar on Liver Disease.

"... And let my liver rather heat—than—cool with mortifying groans."

11:00 a.m.—Seminar on Liver Disease (continued).

2:00 p.m.—Problems in X-ray Diagnosis and Therapy.

"... Diseases desperate grown by desperate appliances are relieved, or not at all."

3:00 p.m.—Problems in X-ray Diagnosis and Therapy (continued).

Panel 2—LOBBY LOUNGE

10:00 a.m.—Geriatric Gynecology.

"... And that which should accompany old age."

11:00 a.m.—Foot Problems.

"... A mender of bad soles . . . a surgeon to old shoes."

2:00 p.m.—Cerebral Vascular Diseases.

"... The time have been that, when the brains were out, the man would die, and there an end; but now they rise again."

3:00 p.m.—Medical CPC.

"... Death's a great disguiser."

LECTURES—FRIDAY, JUNE 26

9:00 a.m.—Determination of Self-Sealing Ruptured Peptic Ulcer—Clarence J. Berne, M.D.

"... It will but skin and film the ulcerous place, whiles rank corruption, mining all within infects unseen."

10:00 a.m.—Low Back Pain—Lorin L. Stephens, M.D.

"... Thou cold sciatica, cripple our senators that their limbs may halt as lamely as their manners."

11:00 a.m.—Current Management of Disorders of Nose and Throat—Alden H. Miller, M.D.

"... Many can brook the weather that love not the wind."

12:00 to 2:00 p.m.—Lunch.

2:00 p.m.—Variations and Clinical Uses of the Adrenal Steroids—Phil R. Manning, M.D., Donald W. Petit, M.D.

"... Find out the cause of this effect, or rather say, the cause of this defect. For this effect defective comes the cause."

3:00 p.m.—Developments in the Management of Epilepsy—Karl O. Von Hagen, M.D., William H. Bucher, M.D.

"... Sits as one new—risen from a dream."

CONCURRENT SEMINARS—FRIDAY, JUNE 26

Panel 1—GREEN ROOM

10:00 a.m.—Seminar on the Management of the Patient with Coronary Artery Disease.
"... Now cracks a noble heart."

11:00 a.m.—Seminar on the Management of the Patient with Coronary Artery Disease (continued).

2:00 p.m.—Diagnostic X-ray Conferences.
"... We will draw the curtain and show you the picture."

3:00 p.m.—Diagnostic X-ray Conferences (continued).

Panel 2—LOBBY LOUNGE

10:00 a.m.—Toxemia of Pregnancy.
"... Great with child and longing for stewed prunes."

11:00 a.m.—Office Ophthalmology with Emphasis on Rx of Emergencies and Industrial Injuries.
"... It adds a precious seeing to the eye."

2:00 p.m.—Painful Syndrome of the Neck and Upper Extremities.
"... Cursed be he that moves my bones."

3:00 p.m.—Surgical CPC.
"... With the help of a surgeon, he might yet recover."

HOST: Sacramento Society for Medical Improvement . . . **REGIONAL CHAIRMAN:** Robert H. Quillinan, M.D., 616 Alhambra Boulevard, Sacramento, Calif. . . . **Institute Fee:** $25.00. For additional information, contact Postgraduate Activities office, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5. **All California Medical Association members and their families are cordially invited to attend.**

For Your Patients—A number of specialists have asked that a slight copy change be made in Message No. 1. This has been done and now Message No. 1A is available as well as Message No. 1.

A Personal Message to YOU:

I consider it both a privilege and a matter of duty to be available in case of an emergency. However, you can understand that there are times when I may not be on call. I might be at a medical meeting outside the city, on a bit of a vacation—or even ill.

Consequently, I thought it would be a good precaution if—on this gummed paper which you can paste in your telephone book or in your medicine cabinet—I listed numbers where I can be reached at all times. Also, the number of a capable associate as an added service. Here they are:

_____	_____	_____
OFFICE	HOME	MY DOCTOR
_____	_____	_____
OFFICE	HOME	ASSOCIATE DOCTOR

Sincerely,

_____, M.D.

MESSAGE NO. 1A. Attractive, postcard-size leaflets printed on gummed paper, you to fill in telephone numbers and your signature. Available in any quantity, at no charge, as another service to CMA members. Please order by Message Number from CMA, PR Department, 450 Sutter, San Francisco.

WOMAN'S AUXILIARY
TO THE CALIFORNIA MEDICAL ASSOCIATION

TO THE PRESIDENT of the Woman's Auxiliary to the California Medical Association comes the pleasant privilege of visiting the component county auxiliaries during the year, of meeting with the Auxiliary members in their home communities and of hearing reports that are given by the committee chairmen on the specific projects they have undertaken in their counties.

In every instance they are working together to cultivate and promote good public relations. Thousands of hours are spent each year on community service. We have members serving on local school boards, in Parent-Teacher Associations, at the rehabilitation and health centers, to name but a few.

These are all volunteer workers, making a valuable contribution of service to the community and helping to develop good public relations for both the Auxiliary and the county medical society.

When I visited Santa Cruz County Auxiliary in April I learned about its active Health Careers program. There are three career clubs in the county high schools, with an auxiliary member in charge of program in each club. During the past year Mrs. James Spencer served as program chairman for the Future Nurses Club of Watsonville High School, Mrs. George McCormick for the Medical Arts Club of San Lorenzo Valley High School and Mrs. Robert Wiese for the Health Careers Club of Santa Cruz High School.

Some of the clubs meet weekly during the lunch hour and others bi-weekly or monthly. Speakers during the year have been specialists in their chosen paramedical field. Their subjects have included talks on occupational therapy, physical therapy, laboratory technology, pharmacy, psychology, psychiatric social work and medical secretarial work as well as nursing.

Each speaker explains to the students the type of work he does, the education and training required, the opportunities that are available in his field of work and the salaries that may be expected. The students are advised what courses are necessary in their high school program to plan for a career. In addition to speakers, many educational films have been shown at the meetings. Field trips have been made to the x-ray and pathology laboratories in Santa Cruz and to the Children's Orthopedic School in Capitola.

During the Easter vacation, the Santa Cruz and San Lorenzo Valley high schools made an all-day tour to the University of California Medical School in San Francisco. The Watsonville group made a similar trip to the Santa Clara County Hospital.

The Santa Cruz High School club is the nucleus of the newly formed County Hospital Junior Auxiliary. Each girl spends two or three hours weekly in volunteer service at the hospital. They help to serve trays, feed patients and work in the laboratory and central-supply room. These girls are well received both by hospital personnel and by patients, who look forward to seeing their bright young faces.

The Auxiliary members in charge of these clubs have compiled sufficient material to enable them to offer a fairly complete counseling service for students seeking information concerning a particular paramedical career.

A new and very important project will be undertaken by the Woman's Auxiliary to the California Medical Association this year. At the recommendation of Dr. T. Eric Reynolds, president of the C.M.A. and chairman of the ad hoc committee on care of the aged, we will assist the California Medical Association in its senior citizens program. In order to establish an information center, to inform people about the available types of care now in existence for senior citizens, each county Auxiliary will be asked to cooperate in making a survey to determine just what is available in the way of day-hospitals, visiting nurses, nursing homes, occupation and hobby programs in its community.

MRS. THEODORE A. POSKA
President, Woman's Auxiliary to the California Medical Association

NEWS & NOTES

NATIONAL • STATE • COUNTY

IMPERIAL

Dr. Burke Schoensee has been appointed county physician for Imperial County by the board of supervisors. He will serve pro tem until a full-time successor to Dr. Robert Perlman, the former occupant of the position, can be found, it was announced.

LOS ANGELES

Three grants totalling $14,177 for research were made recently by the **Los Angeles County Association for Mental Health.**

Dr. Norman Q. Brill, head of the department of psychiatry at the University of California at Los Angeles School of Medicine, was allotted $5,500 for a study of corticotropin in connection with schizophrenia. **Dr. Nicholas Bercel,** University of Southern California, received $1,000 for continuance of research on the injection of blood from schizophrenic patients into spiders, and Dr. Esther Bogen, College of Medical Evangelists, was awarded $3,100 to continue studies of relationship between mental illness and metabolism.

* * *

Dr. George V. Webster, Pasadena, was installed as president of the California Society of Plastic Surgeons at the organization's meeting in Yosemite Park in April. Dr. Harry M. Blackfield of San Francisco was elected vice-president, and Dr. Richard A. Shepard, Oakland, was reelected secretary-treasurer.

* * *

Dr. Arnold L. Freed was installed as president of the Los Angeles County Tuberculosis and Health Association at the annual meeting of the organization in April, and Dr. Samuel J. Sills was elected president-elect.

* * *

Dr. Paul O. Greeley, medical director of the student health service at University of Southern California, became president of the American College Health Association at the organization's annual meeting in Philadelphia in May.

* * *

The medical management of cancer will form a postgraduate course that will be sponsored by the University of Southern California School of Medicine. The program will be held from 7:30 to 9:30 p.m. on three Thursday evenings, July 9, 16, and 23, 1959, at Lebanon Hall, Cedars of Lebadon Hospital, Los Angeles. The program will be presented by Doctor Henry D. Diamond, chief of the lymphoma service of the Memorial Center for Cancer and Allied Diseases, New York, and author of *The Medical Management of Cancer.*

The course is intended for internists, surgeons, general practitioners, pathologists and radiologists who are interested in management of cancer. There will be a brief review of the indications for surgical and radiological therapy, but emphasis will be on medical management. Tuition is $15.00.

Registration may be accomplished through the Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33.

Dr. Joseph M. de los Reyes, Glendale, has been appointed by the Los Angeles County Board of Supervisors as a member of the County Hospital Advisory Committee.

SAN FRANCISCO

Dr. Clyde C. Greene, Jr., of San Francisco, was elected secretary-treasurer of the American Society of Internal Medicine at the organization's recent annual meeting in Chicago.

* * *

Dr. Alfred Auerback, San Francisco, was installed as speaker of the Assembly of District Branches at the recent annual meeting of the American Psychiatric Association in Philadelphia.

* * *

Dr. Henry Kaplan, professor of radiology at Stanford University School of Medicine, has been named the recipient of the second annual award by the Ann Langer Cancer Research Foundation of Chicago "for meritorious investigation by a scientist under the age of 45 in the field of cancer."

SANTA CLARA

Appointment of Dr. J. Garrott Allen of the University of Chicago Clinics as **head of the department of surgery at Stanford** University School of Medicine was announced recently by Dr. Robert H. Alway, dean of the school. The new appointee, who will assume his duties July 1, is professor of surgery and attending surgeon at the University of Chicago Clinics.

* * *

Appointment of two leading organic chemists to important research positions at Stanford University was announced recently by President Wallace Sterling. Dr. William S. Johnson, currently the Homer Adkins professor of chemistry at the University of Wisconsin, has been named head of Stanford's Chemistry and Chemical Engineering Department effective in 1960. He will replace Dr. George S. Parks, who becomes emeritus head this year. Dr. Carl Djerassi of Wayne State University, now on leave in Mexico City, is the second new appointee. He will become professor of chemistry effective September 1959, but will remain on leave for approximately another year.

The two men have outstanding records of research in steroids, antibiotics and other natural products, the announcement said. Dr. Johnson's work includes the synthesis of various sex and adrenocortical hormones used in treating arthritis and heart disease. Dr. Djerassi had a part in synthesizing cortisone and is co-inventor of the antihistamine tripelennamine (Pyribenzamine®).

GENERAL

At the 35th annual meeting of the **Western Section of the American Urological Association** held in Monterey, California, May 18 to 21, 1959, the following officers were elected: President-elect, Dr. Charles Montgomery Stewart, Los Angeles; secretary-treasurer, Dr. John W. Dorsey, Long Beach.

* * *

A symposium on **evaluation of early diagnosis of cancer** will be presented at the Annual Scientific Session of the American Cancer Society to be held October 26 and 27, 1959, Biltmore Hotel, New York.

The program is fully approved and recommended by the American Academy of General Practice for 12 hours of Category II credit for its members.

The American Urological Association has announced the opening of competition for its **annual awards** of $1,000 (first prize $500, second prize $300 and third prize $200) for essays on the result of some clinical or laboratory research in urology. Competition is limited to urologists who have been graduated not more than ten years, and to hospital interns and residents doing research work in urology.

The first prize essay will appear on the program of the forthcoming meeting of the American Urological Association, to be held at the Palmer House, Chicago, Illinois, May 16 to 19, 1960.

Full particulars may be obtained from the executive secretary of the association, William P. Didusch, 1120 North Charles Street, Baltimore, Maryland. Essays must be in his hands before December 1, 1959.

POSTGRADUATE EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: Mrs. Margaret H. Griffith, Director, Postgraduate Activities, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Office Urology. Wednesday, June 17. Six hours. Fee: $30.00.

Surgical Technique Utilizing the Isolated Intestinal Segment in Urological Procedures. Thursday, June 18. Seven hours. Fee: $150.00.†

Eighth Annual Symposium in Clinical Laboratory Technology. Saturday and Sunday, June 20 and 21. Twelve hours. Fee: $20.00 (includes one lunch).

Workshop for School Nurses: The Nurse in the School Health Program. Monday through Friday, June 22 through July 3. Los Angeles. Fifty hours. Fee: $35.00.

Dissection of the Thorax, Abdomen and Pelvis. Wednesday and Thursday, June 24 and 25. Fourteen hours. Fee: $80.00.†

Dissection of the Extremities. Friday, June 26. Seven hours. Fee: $40.00.†

Hand Surgery. Saturday and Sunday, June 27 and 28. Twelve hours. Lecture and laboratory, $60.00.† Lecture only, $35.00.

Workshop for School Nurses: The Nurse in the School Health Program. Monday through Friday, July 6 through 17. Riverside. Fifty hours. Fee: $35.00.

Clinical Neurology. Wednesday, July 8 to August 12. Thirty-six hours. Fee: $100.00.

† Limited enrollment.

Workshop for School Nurses: The Nurse in the School Health Program. Monday through Friday, July 20 through 31. San Diego. Fifty hours. Fee: $35.00.

Infertility. Friday and Saturday, July 24 and 25. Twelve hours. Fee: $60.00.

The Impact of Surgery on Anesthesia. Wednesday, Thursday and Friday, August 5, 6 and 7. Eighteen hours. Fee: $60.00.

Development and Principles of Industrial Nursing. Thursdays, September 10 through January 28. Forty-five hours. Fee: $35.00.

Common Problems of the Foot. Friday and Saturday, September 11 and 12. Nine hours. Fee: $35.00.

Three Summer Seminars at University of California Residential Conference Center, Lake Arrowhead (all fees at Lake Arrowhead include room and board):

Pediatric Cardiology. Sunday through Wednesday, August 16 through 19. Fifteen hours. Fee: $137.50.† Guest speaker: John Lind, M.D., Stockholm, Sweden.

Emotional Problems in Office Practice. Wednesday through Sunday, August 19 through 23. Fifteen hours. Fee: $150.00.†

Seminars in Internal Medicine. Sunday through Wednesday, August 23 through 26. Fifteen hours. Fee: $137.50.†

Teaching Clinics. Thursdays, September 17 through December 10. Twenty-four hours. Fee: $50.00. (No meeting November 26.)

Clinical Traineeships—Anesthesia and Dermatology. Dates by arrangement. Minimum period—two weeks. Fee: Two weeks, $150.00; four weeks, $250.00.

Contact: Thomas H. Sternberg, M.D., Assistant Dean for Postgraduate Medical Education, U.C.L.A., Los Angeles 24. BRadshaw 2-8911, Ext. 7114.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Pediatrics. Wednesday through Saturday, June 17 through 20. Twenty-eight hours. Fee: $20.00 per day.

Fundamental Practices of Radioactivity and the Diagnostic and Therapeutic Uses of Radioisotopes. Two or three month course limited to one enrollee per month. Fee: $350.00.

Contact: Seymour M. Farber, M.D., Assistant Dean, Department of Continuing Medical Education, University of California Medical Center, San Francisco 22. MOntrose 4-3600, Ext. 665.

STANFORD UNIVERSITY SCHOOL OF MEDICINE

Morning Clinical Conferences, each Monday, Room 515. *Contact:* D. H. Pischel, M.D., Professor, Division of Ophthalmology, Stanford University School of Medicine, 2398 Sacramento St., San Francisco 15.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

Cardiac Resuscitation. Sponsored by the Los Angeles County Heart Association each Wednesday throughout the year, 4 to 6 p.m. USC Medical Research Building, Room 211, 2025 Zonal Avenue. Residents and interns

of Los Angeles County, and all armed forces medical personnel admitted without fee. Tuition for all other physicians $30.00. (Each session all-inclusive.)

Basic Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: $100.00.

Advance Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: $85.00. Physicians may register at any time.

SPECIAL ANNOUNCEMENT: Last summer a postgraduate refresher course held in Hawaii was so successful that the USC School of Medicine will offer another refresher course in Hawaii and on board the *S.S. Lurline* from July 29 to August 14. (As a time and money saver, round trip air travel is also possible July 29 to August 10.)

Dermatology and Syphilology Course. Full time, September 15 through August 15. Fee: $1000.00.

Electrocardiography, Three-Day Symposium. September 18 through 20. Twenty-one hours. Fee: $65.00.

Intensive Review of Internal Medicine. Monday through Friday, September 21 through October 2. 9 to 12:30 a.m. Forty hours. Fee: $65.00.

Bedside Clinics. Thursdays, October 8 through January 14. 7:30 to 9:30 p.m. Twenty-four hours. Fee: $65.00.

Laboratory Methods. One-Day Symposium. Friday, October 9. Seven hours. Fee: $25.00.

Alumni Homecoming Course. Recent Advances in Medicine. Thursday and Friday, November 5 and 6. Sixteen hours. Fee: $50.00.

Progress in Gastroenterology. Friday through Sunday, January 15 through 17. Twenty-one hours. Fee: $65.00.

Bedside Cardiology. Thursdays, February 4 through April 21. Fee: $65.00.‡

Dermatology Clinic, One-Day Symposium. Thursday, March 24.§

Funduscopy in Internal Medicine. Every other Tuesday, April 5 through May 31. Five 2-hour sessions.*

Ward Walks in Rare Diseases. Thursdays, April 14 through June 16.§

Contact: Phil R. Manning, M.D., Associate Dean and Director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CApital 5-1511.

COLLEGE OF MEDICAL EVANGELISTS

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1960 Alumni Postgraduate Convention. Refresher Courses, March 13 and 14 at White Memorial Hospital, 1720 Brooklyn Avenue; Scientific Assembly, March 15, 16 and 17 at Biltmore Hotel. *Contact:* Walter Crawford, Executive Secretary, 316 N. Bailey Street, Los Angeles 33, ANgelus 2-2173.

For information contact: G. E. Norwood, M.D., assistant dean and chairman, Division of Postgraduate Medicine, College of Medical Evangelists, 1720 Brooklyn Ave., Los Angeles 33. ANgelus 9-7241, Ext. 214.

* * *

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Medical Dates Bulletin

SUMMER AND FALL MEETINGS

CALIFORNIA MEDICAL ASSOCIATION in cooperation with University of Southern California School of Medicine and Sacramento Valley County Medical Societies Postgraduate Institute. June 25 and 26. Lake Tahoe, Tahoe Tavern. Chairman: Robert H. Quillinan, M.D., 616 Alhambra Blvd., Sacramento. *Contact:* Chairman or C.M.A. office, 2975 Wilshire Blvd., Los Angeles 5, DUnkirk 5-2341.

NEVADA STATE MEDICAL ASSOCIATION, Annual Session, jointly with Reno Surgical Society, August 19 through 22, Mapes Hotel, Reno. *Contact:* Nelson B. Neff, executive secretary, P. O. Box 188, Reno.

SAINT JOHN'S HOSPITAL Postgraduate Assembly, September 10 through 12, Saint John's Hospital, Santa Monica. *Contact:* John C. Eagan, M.D., director, Postgraduate Assembly, 1328 22nd Street, Santa Monica.

WASHINGTON STATE MEDICAL ASSOCIATION Annual Meeting, September 13 through 16, Olympic Hotel, Seattle, Washington. *Contact:* Ralph W. Neill, executive secretary, 1309 Seventh Avenue, Seattle, Washington.

AMERICAN COLLEGE OF GASTROENTEROLOGY. September 19 through 26. Biltmore Hotel, Los Angeles. *Contact:* Mr. Daniel Weiss, executive director, 33 W. 60th St., New York 23, New York.

SANTA BARBARA COUNTY HEART ASSOCIATION Symposium on Cardiovascular Disease. Saturday, September 19. 9:00 a.m. to 5:00 p.m. Biltmore Hotel, Santa Barbara. *Contact:* Mrs. Katherine McCloskey, executive director, 18 La Arcada Court, Santa Barbara.

OREGON STATE MEDICAL SOCIETY Annual Meeting, September 23 through 25, Medford, Oregon. *Contact:* Mr. Roscoe K. Miller, executive secretary, 1115 S.W. Taylor St., Portland 5, Oregon.

PAN-PACIFIC SURGICAL ASSOCIATION 8th Intensive Surgical Congress, embracing all Surgical Specialties. September 28 through October 5. Honolulu, Hawaii. *Contact:* F. J. Pinkerton, M.D., director general, Suite 230, Alexander Young Building, Honolulu 13.

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*Fees to be announced.

‡Hours to be announced.

§Fees and hours to be announced.

San Francisco Heart Association 29th Annual Postgraduate Symposium on Heart Disease. September 30, October 1 and 2, 9 a.m. to 5 p.m. daily, St. Francis Hotel, San Francisco. *Contact:* Lawrence I. Kramer, Jr., executive director, 259 Geary Street, San Francisco 2. YUkon 2-5753.

Western Industrial Medical Association, Inc. 18th Annual Meeting, held in conjunction with Third Western Industrial Health Conference, all day October 2 and 3, Statler Hotel, Los Angeles. *Contact:* A. C. Remington, M.D., medical director, AiResearch Mfg. Co., 9851 Sepulveda Blvd., Los Angeles 45.

California Society of Internal Medicine Annual Meeting, October 2 through 4, Miramar Hotel, Santa Barbara. *Contact:* Mrs. Mildred B. Coleman, executive secretary, or Clyde C. Greene, Jr., M.D., secretary-treasurer, 350 Post Street, San Francisco 8.

California League for Nursing Annual Meeting, October 8 through October 10, U. S. Grant Hotel, San Diego. *Contact:* Ruth I. Jorgensen, general director, Room 202, 465 Post St., San Francisco 2.

California Academy of General Practice 11th Annual Scientific Assembly, October 11 through 14, 9:00 a.m. to 5:00 p.m., Hotel Statler, Los Angeles. *Contact:* William W. Rogers, executive secretary, 461 Market Street, San Francisco.

American Academy for Cerebral Palsy Annual Meeting, November 30 through December 2, Statler Hotel, Los Angeles. *Contact:* Margaret H. Jones, M.D., local arrangements chairman, associate professor of pediatrics, UCLA School of Medicine, Los Angeles 24.

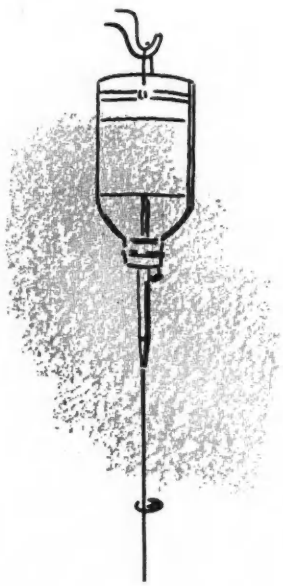
Memorial Hospital of Long Beach Medical Staff 2nd Annual Scientific Symposium "New Horizons in Medicine," to be held in conjunction with the formal opening of the new 400-bed Memorial Hospital of Long Beach. December 2nd. *Contact:* George X. Trimble, M.D., director of medical education, Seaside Memorial Hospital, 1401 Chestnut Avenue, Long Beach 13.

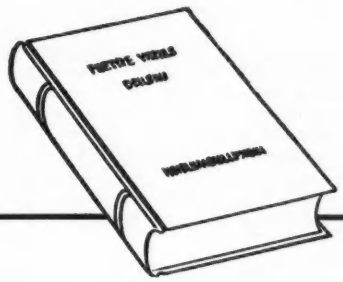
1960 MEETINGS

Research Study Club of Los Angeles Midwinter Clinical Conference, third week of January, Ambassador Hotel, Los Angeles. *Contact:* Norman Jesberg, M.D., secretary, 500 S. Lucas Avenue, Los Angeles 17.

California Medical Association Annual Meeting, February 21 through 24, Ambassador Hotel, Los Angeles. *Contact:* John Hunton, executive secretary, 450 Sutter Street, San Francisco 8; or Ed Clancy, director of Public Relations, 2975 Wilshire Blvd., Los Angeles 5.

Southwestern Pediatric Society Spring Lecture Series, March 1 and 2, Statler Hotel, Los Angeles. *Contact:* Wendell Severy, M.D., program chairman, 11633 San Vicente Blvd., Los Angeles 49.





THE PHYSICIAN'S *Bookshelf*

TUMORS OF THE LUNGS AND MEDIASTINUM—B. M. Fried, M.D., F.C.C.P., Associate Attending Physician, Montefiore Hospital; Associate Visiting Physician, Morrisania City Hospital, New York, New York. Lea & Febiger, Philadelphia, 1958. 467 pages, $13.50.

This monograph deals in systematic fashion with primary cancer of the lungs, rarer intrathoracic tumors and mediastinal tumors.

After chapters dealing with histiogenesis and classification, there are two chapters on etiology, one on clinical manifestations, two on metastases, two on diagnostic procedures, one on pulmonary function and two on therapy (surgical and radiological). The latter were contributed respectively by Dr. T. H. Burford, surgeon, St. Louis, and Dr. H. W. Jacox, radiologist, New York.

There are then chapters on adenoma, rare tumors, pleural tumors and a series of five chapters on mediastinal tumors and cysts.

Under classification, the author describes the usual common primary bronchial tumors (squamous cell, adenocarcinoma and undifferentiated carcinoma), but does not deal with a systematic method of *staging* such as that suggested by experienced investigators at the Third National Cancer Conference (see Proceedings, published by Lippincott, Philadelphia, 1957, pages 524 and 525). When primary bronchial carcinoma is staged in a systematic fashion, comparison of results at one institution may better be made with those at another.

The possibility of more refined preoperative diagnosis of solitary pulmonary nodules is not considered in detail, although the value of such is now recognized by many clinicians. Indeed, in the clinical section, there are some curious statements such as, "There has probably never been a case of cancer of the lung which has not been diagnosed at the outset as pneumonia" (page 90). Further, the relative proportion of solitary pulmonary tumors which are due to malignant neoplasm is based primarily on surgical-hospital material rather than on total clinical material. The author gives a percentage of approximately 29 for solitary round lesions (page 38), when extensive experiences such as those of Holin of Cleveland have shown the figure to be closer to 3 per cent.

The section on surgical treatment is well written. That on radiotherapy contains important points such as, "There is no difference in the cancericidal effects of 2000 kv., radium, cobalt 60 or 250 kv. radiation." Since the author of this section has had considerable experience with megavoltage, and since the cost of the latter to patients far exceeds that of orthovoltage radium therapy, his observation merits noting. There is, of course, no valid statistical evidence that megavoltage radiotherapy is any better for curative or palliative treatment of primary lung cancer than is orthovoltage (200 kv.).

In the section on radioactive isotope therapy, the fact that nitrogen mustard is preferable to isotopes is stressed. In the section on diagnosis there is a typographical error that merits correction: The author refers to a diagnostic dose of 300 millicuries of iodine^{131}, when of course microcuries is meant (page 180).

The author states that most observers today are of the opinion that thymoma is invariably a benign neoplasm, but does concede that some clinicians regard a few of these lesions as malignant.

In view of the increasing incidence of primary lung cancer, this monograph should be of value to practicing physicians in many disciplines. The work is well printed and illustrated, and has an adequate index.

L. HENRY GARLAND, M.B.

* * *

ATOMIC MEDICINE—Third Edition—Edited by Charles F. Behrens, M.D., F.A.C.R.; Rear Admiral, MC, U. S. Navy (Ret.); Roentgenologist, Yater Clinic, Washington D. C.; Consultant and Lecturer in Radiology, U. S. Naval Medical Center, Bethesda, Maryland; Formerly Director, Atomic Defense Division, Bureau of Medicine and Surgery, Navy Department; Commanding Officer, Navy Medical Research Institute, National Naval Medical Center, Bethesda, Maryland. The Williams & Wilkins Company, Baltimore, 1959. 705 pages, $15.00.

This very well written book now in its third edition contains twenty-four chapters of 705 pages. There are twenty-five contributors to this volume. The first edition was published in 1949, the second edition in 1953, and this third edition in 1959.

There are few scientific fields in which such rapid changes are being continually made as in the field of atomic medicine. This third edition has required extensive revision or rewriting of most of the previous chapters in order to attempt to keep abreast of the new changes. There is a great deal of practical information in this book both for the specialist and nonspecialist. Some of the chapters in this book contain a great deal of useful up-to-date information for all physicians concerning the fundamental biology of ionizing radiation, the pathologic anatomy of total body irradiation, the hematology of ionizing radiation, a detailed report considering the effects of acute whole body radiation injury, the diagnosis and treatment of acute radiation injury, radiation protection, survival methods in atomic disaster, and clinical methods of radio-isotope employment.

There are forty-seven pages containing much useful information concerning symbols, units and definitions, and tables regarding isotopes. Most of the chapters list numerous excellent references to which the reader can refer for additional information.

Of all the numerous publications on this subject, this one volume on *Atomic Medicine* has continued to maintain its high standards. The up-to-date, well documented material has been excellently written, well illustrated, and is one of the outstanding books in this field.

JUSTIN J. STEIN, M.D.

PROBLEMS OF ADDICTION AND HABITUATION (The Proceedings of the Forty-Seventh Annual Meeting of the American Psychopathological Association, Held in New York City, February 1957). Edited by Paul H. Hoch, M.D., New York State Psychiatric Institute; College of Physicians and Surgeons, Columbia University, New York City; and Joseph Zubin, Ph.D., New York State Psychiatric Institute; Department of Psychology, Columbia University, New York City. Grune & Stratton, New York, 1958. 250 pages, $6.50.

This volume is dedicated to California's Dr. Karl Bowman, the Samuel W. Hamilton Memorial Lecturer for 1957. Devoted to habituation in its broadest sense, it contains discussions of the use of coffee and the etiology of pica in young children as well as papers on addiction to alcohol, barbiturates, and narcotics. As is probably inevitable with coverage so broad, the contributions are diverse in approach and variable in quality. If there is a single unifying thread running through the collection, it is the idea that users of different drugs can profitably be considered as psychologically a single group. Although this hypothesis would be disputed by many, it does constitute one possible useful approach to these problems.

In the area of alcoholism Piotrowski, et al., contribute a study of self-image while Prout and his associates include this concept in a somewhat more expanded theoretical discussion based on some preliminary research. The investigations of clinical management of alcoholism are interesting, particularly the one by Tiebout. In it he discusses the reasons for the failure of classical psychoanalytic therapy in chronic alcoholism and contrasts it with the successes produced by such organizations as A. A. He makes a convincing plea for the therapeutic use of limit setting in these problems, an approach which certainly needs further study and testing.

Dr. Sandor Rado's production heads the papers more particularly devoted to narcotic addiction although his theory applies to all forms of excessive drug use. He has expanded his classical contributions to this area and reviews his current theoretical thinking here. In another paper, Dr. Robert Rasor gives a good description of the therapeutic activities at the U. S. Public Health Service Hospital, Lexington, Kentucky. Perhaps the most stimulating of the papers in this area is the one by Regan who suggests that abrupt withdrawal from narcotics accompanied by psychotherapy may facilitate rather than hinder later treatment.

The controversy concerning the best methods for controlling narcotic use in this country is considered in two articles. One is by W. Lee Speer, an official of the Federal Bureau of Narcotics, and the other is Dr. Karl Bowman's contribution. Mr. Speer argues the thesis that the incidence of addiction and of its disturbing social consequences are inversely proportional to the severity of the penalties enforced against it. His statement of his case is polemic and is less convincing for this reason. Dr. Bowman, who takes the position that the narcotic addiction problem should be in the hands of physicians rather than of law enforcement officials, argues largely by analogy from other not necessarily comparable problems. A reading of both papers suggests that the real need is for a body of experimentally verified facts concerning the results of different treatment approaches.

Also included is an important paper by Kalinowski which reemphasizes the importance of withdrawal convulsions and psychoses in cases of alcohol and barbiturate overuse. A review by Massermann succeeds in condensing twenty years of experimental work in an area of considerable interest to workers dealing with problems of addiction. The presidential address by Liddell has little to do with the theme of the book, but it is an excellent brief introduction to his important work on the experimental study of psychopathology.

This is a book of primary interest to professionals working in this field who wish to be acquainted in detail with current thinking and research. None of the contributions seem likely to become classics but most of them are well thought out and competently executed. A comment should be made about the discussions of the papers; these are stimulating and useful.

HUGH A. STORROW, M.D.

* * *

TREATMENT IN INTERNAL MEDICINE — Harold Thomas Hyman, M.D., Diplomate of the American Board of Internal Medicine; Consulting Physician, Monmouth Memorial Hospital, Long Branch, and Riverview Hospital, Red Bank, New Jersey. Formerly Assistant Professor of Pharmacology, Columbia University; Associate Attending Physician, The Mount Sinai Hospital, New York; Attending Physician, The Montefiore Hospital, New York. J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pa., 1958. 609 pages, $12.50.

The author states the purpose of his book in the preface: "A functional text planned and integrated to serve as a single volume 'office and bedside consultant' to colleagues who deal first hand with the problems of daily practice." This he has done although the book is difficult to use as a reference book and some of the facts are of questionable accuracy.

He has combined a tremendous amount of factual, theoretical and philosophical material into 582 pages, presented in a dramatic literary style, interspersed with a few illustrations which are not particularly essential for the understanding of the material. The material touches on the problems of internal medicine, physical medicine, neuropsychiatry, and nursing care and in several brief chapters on the specialized problems of pediatrics, geriatrics, obstetrics, gynecology, dermatology, ear-nose-throat, orthopedics, urology and gastrointestinal disease.

The purely pharmacological material is relatively up to date and encyclopedic in its scope with long tables listing older medications along with the latest available drugs. Thus he mentions Amphotericin B and discusses Diuril which are quite up to date. But the detailed management of specific problems is disappointing. Thus he makes no mention of the chronic management of complete heart block; he prevents atrial fibrillation with 0.2 or 0.3 gm. quinidine two or three days a week, making no mention of digitalis unless the patient is in failure, and treats malignant hypertension with lumbar puncture, phlebotomy, Diuril and Veratrum with no mention of the ganglion blocking agents.

The book is filled with pages of personal experience, generalizations and classifications of disease which differ from those commonly accepted. For instance, he differentiates between essential and aortic hypertension as two different entities. He lists among his "Ten Commandments of Cancer Prevention": (1) Don't smoke or permit smoking, (2) Do not permit the woman whose mother died of breast malignancy to nurse her female children. This latter fact may be true in some mice but has certainly never been proven in humans. Professor Hyman has documented his work with numerous reference to generally known and accepted studies, but unfortunately, fails to state the date of the publications. He uses several medical terms in a rather unusual manner, as, for instance, "hypercortinism" is used to describe treatment with cortisone or its derivatives in doses both less and more than the maintenance for an adrenalectomized patient.

In summary, the author has presented a large amount of valuable material which is at times somewhat difficult to use in the management of specific problems.

California MEDICINE

INDEX TO VOLUME 90, JANUARY-JUNE, 1959

AUTHOR INDEX

A — PAGE

Adams, Forrest H., *Los Angeles* ... 213
Anderson, Robert M., *Los Angeles* ... 164
Andonian, Andon A., *Los Angeles* ... 264
Askey, John Martin, *Los Angeles* ... 197
Auerback, Alfred, *San Francisco* ... 224, 335

B

Bankoff, George, *Norwalk* ... 349
Batten, Charles T., *Los Angeles* ... 202
Batts, Elmer E., *Berkeley* ... 126
Beard, Rodney R., *San Francisco* ... 426
Benton, John L., *Los Angeles* ... 222
Binkley, Frank C., *Pasadena* ... 227
Bishop, Harry A., *Los Angeles* ... 20
Bogen, Emil, *Olive View* ... 117
Bond, Floyd M., *San Diego* ... 433
Brickley, Paul M., *Santa Barbara* ... 45

C

Clausen, Edwin G., *Oakland* ... 407
Cobb, Norman L., *San Diego* ... 261
Condit, Philip K., *Berkeley* ... 318
Cosby, Richard S., *Los Angeles* ... 217, 278
Cox, Francis J., *San Francisco* ... 220

D

Ditman, Keith S., *Los Angeles* ... 138
Domz, Casimir A., *Santa Barbara* ... 45
Dorsey, Clete S., *Pasadena* ... 155
Drury, Bernard J., *Santa Barbara* ... 37

E

Elias, Ralph B., *La Jolla* ... 128
Elkington, J. St. C., *London* ... 251
Enelow, Allen J., *Los Angeles* ... 138

F

Faris, George A., *San Jose* ... 332
Felton, Leland R., *San Francisco* ... 270
Fine, Max, *San Francisco* ... 121
Fink, Aaron J., *Mountain View* ... 441
Friedman, Ray, *San Francisco* ... 170
Froman, Seymour, *Olive View* ... 117

G — PAGE

Gans, Stephen L., *Beverly Hills* ... 345
Gifford, Byron L., *Santa Barbara* ... 45
Goggio, Alfred F., *Berkeley* ... 151
Grimes, Orville F., *San Francisco* ... 39

H

Haman, John O., *San Francisco* ... 130
Hammond, Wylda, *Eldridge* ... 148
Hanlon, C. Rollins, *St. Louis* ... 422
Harnagel, Edward E., *Los Angeles* ... 264
Hassard, Howard, *San Francisco* ... 220, 411
Hedge, Arden R., *Monrovia* ... 55
Hurwitz, George K., *San Francisco* ... 234

J

Jacobson, George, *Los Angeles* ... 217
Jake, Robert J., *Oakland* ... 407
Jampolsky, Arthur, *San Francisco* ... 437
Jelinek, Vaclav V., *Los Angeles* ... 264

K

Kay, Jerome Harold, *Los Angeles* ... 164
Konwaler, Benjamin E., *Long Beach* ... 278
Krag, Daniel, *San Jose* ... 230
Kraut, J. J., *Los Angeles* ... 322

L

Lambert, Thomas H., *La Jolla* ... 257
Leeds, M. Frederick, *San Francisco* ... 273
Levitin, Joseph, *San Francisco* ... 270
Lewis, Reuben, *Los Angeles* ... 164
Lewis, William B., *Riverside* ... 26
Lincoln, Charles S., Jr., *Berkeley* ... 126

M

MacAndrew, Craig, *Los Angeles* ... 138
Marg, Elwin, *San Francisco* ... 437
Marshall, Alastair J., *London* ... 294
Maxon, Barbara, *San Francisco* ... 1
May, Angelo, *San Francisco* ... 328
McClure, C. M., *Lindsay* ... 440
McCort, James J., *San Jose* ... 139
McLaughlin, Joseph C., *San Francisco* ... 234
Meihaus, John E., *Los Angeles* ... 164
Monroe, Stanley E., *Chula Vista* ... 339
Morgan, Frank M., *Glendale* ... 283
Morris, J. N., *London* ... 168
Mosier, H. David, *Los Angeles* ... 32
Mumler, William C., *Los Angeles* ... 222

KEY TO ABBREVIATIONS USED

(Or.)—Original Article; (Ed.)—Editorial; (CMA)—California Medical Association; (CR)—Case Report; (I)—Information; (LE)—Letters to the Editor; (MJ)—Medical Jurisprudence.

N

Nelson, Lawrence M., *Santa Barbara* 49
Nelson, Thomas L., *Eldridge* 148
Nemethi, Carl E., *Los Angeles* 207
Nordstrom, Ray C., *Berkeley* 126

O

Odou, Bruce L., *Montebello* 269
Odou, Eugene R., *Montebello* 269
O'Loughlin, Bernard J., *Los Angeles* 20

P

Pollock, R. C., *San Bernardino* 284

R

Raffle, P. A. B., *London* 168
Reich, Stanley B., *San Francisco* 270
Rogers, Wilbur G., *Glendale* 283
Rolf, Bruce B., *Los Angeles* 419
Rosenman, Ray H., *San Francisco* 170
Ross, Donald E., *Los Angeles* 318, 322
Ruskin, Isidore W., *Los Angeles* 144
Russell, Denise, *San Francisco* 1

S

Schade, Frank F., *Los Angeles* 160
Scoville, William B., *Hartford, Connecticut* 261
Sharp, George S., *Pasadena* 227
Shean, Dudley B., *San Jose* 230
Shroff, Phyllis F., *Los Angeles* 9
Smith, C. C., *San Jose* 332
Stein, Justin J., *Los Angeles* 353
Summers, John E., *Sacramento* 340

T

Tamler, Edward, *San Francisco* 437
Teicher, Joseph D., *Los Angeles* 29
Tour, Robert L., *San Francisco* 429

U

Ulrich, Clifford W., *Los Angeles* 264

V

van der Reis, Leo, *San Francisco* 162
van der Reis, Maurice L., *San Francisco* 162
Vicas, B., *San Francisco* 162

W

Wall, C. Allen, *San Francisco* 422
Wallerius, Raymond M., *Sacramento* 134
Webber, Milo, *Los Angeles* 20
West, Francis E., *San Diego* 315
Whelan, William M., *San Francisco* 220
White, Laurens P., *San Francisco* 1
Wilbur, Dwight L., *San Francisco* 357
Wilde, N. John, *Fresno* 17
Wilkinson, Allan B., *Glendale* 283
Will, Drake, *Los Angeles* 117
Woodhull, Robert B., *San Jose* 275
Wright, Robert, *San Francisco* 14

SUBJECT INDEX

A

Acute Myocardial Infarction, Survival in, Factors Observed in 318 Patients, Edward E. Harnagel, Vaclav V. Jelinek, Andon A. Andonian and Clifford W. Ulrich (Or.) 264
Acute Renal Failure Manifesting As Water- and Salt-Losing Insufficiency, Aaron J. Fink (CR) 441
Acute Suppurative Cholecystitis, Radiographic Signs of, James J. McCort (Or.) 139
Adolescents, Psychotherapy of, Joseph D. Teicher (Or.) 29
(Aged) C.P.S. Medical Care Plan for "Over 65" (CMA) 448
(Aged, Medical Care for) MD-Plan 65 (Ed.) 445
Aged, Medical Care for (Ed.) 167
Agenda, House of Delegates (CMA) 75
Aging, Care of, Committee Report (CMA) 291
(Aging, Health Care for) Mr. Forand's Needle (Ed.) .. 288
Air Travel, Jet, Medical Aspects of Commercial, M. Frederick Leeds (Or.) 273
Alastair J. Marshall—British GP Interview (CMA) 294
Alcoholic Rehabilitation Program, California's, A Preliminary Report, Alfred Auerback (Or.) 224
Alcoholics, Psychotherapy of, The Concept of Psychotherapeutic Motivation, Keith S. Ditman, Allen J. Enelow and Craig MacAndrew (Or.) 138
Algerian Ivy Dermatitis—A California Disease, Clete S. Dorsey (Or.) 155
Anemia and Hepatitis, Q Fever Manifested by, Report of a Case, George K. Hurwitz and Joseph C. McLaughlin (CR) 234
Angiographic Diagnosis (of) Cerebral Vascular Occlusion, Stanley B. Reich, Joseph Levitin and Leland R. Felton (Or.) 270
Annual Reports (CMA) 89
Anticoagulant Drug Treatment of Coronary Artery Disease, John Martin Askey (Or.) 197
Are We Making the Same Mistakes British Doctors Made? The British GP Thinks So, Alastair J. Marshall (CMA) 294
Arizona Group Bacilli, Serious Human Infections Due to, Daniel Krag and Dudley B. Shean (CR) 230

B

Bacilli of the Arizona Group, Serious Human Infections Due to, Daniel Krag and Dudley B. Shean (CR) 230
Biggest C.M.A. Meeting (CMA) 239
Biliary Tract, Visualization of the, Preoperative, Operative, and Postoperative, Radiologic Investigation, C. Rollins Hanlon and C. Allen Wall (Or.) 422
Blain, Daniel—The New Mental Hygiene Director (I) .. 399
Breast Cancer, Hypophysectomy for Palliation of, Especial Reference to Surgical Technique, Norman L. Cobb and William B. Scoville (Or.) 261
British Doctors, Are We Making the Same Mistakes as, Alastair J. Marshall (CMA) 294
Brunner's Glands, Hyperplasia of, Maurice L. van der Reis, Leo van der Reis and B. Vicas (CR) 162

C

California Community Mental Health Services Program: Background and Status After One Year, The Short-Doyle Act, Alfred Auerback (Or.) 335
California Disease, A, Algerian Ivy Dermatitis, Clete S. Dorsey (CR) 155

California Medical Assistants Association, What Is It? (I) 397
California Medicine, A Survey (Ed.) 58
(California Physicians' Service Anniversary) Twenty Years After (Ed.) 236
California Physicians' Service, The Future of, Dwight L. Wilbur (Ed.) 357
C.P.S. Medical Care Plan for "Over 65" (CMA) 448
California, Tetanus in, Epidemiology of and Review of 232 Cases, Philip K. Condit (Or.) 318
California's Alcoholic Rehabilitation Program, A Preliminary Report, Alfred Auerback (Or.) 224
Can a Single Injury Cause Cancer?, Arden R. Hedge (Or.) 55
Cancer, Breast, Hypophysectomy for Palliation of, Especial Reference to Surgical Technique, Norman L. Cobb and William B. Scoville (Or.) 261
Cancer, Can a Single Injury Cause?, Arden R. Hedge (Or.) 55
Cancer Control (Ed.) 446
Cardiac Arrest Through Volition, C. M. McClure (CR) 440
Care of the Aging, Report of a Special Committee (CMA) 291
Cecum, Volvulus of the, Occurring After Operation, Additional Etiological Factors and Therapy, Allan B. Wilkinson, Frank M. Morgan and Wilbur G. Rogers (CR) 283
Cerebral Vascular Occlusion—Angiographic Diagnosis, Stanley B. Reich, Joseph Levitin and Leland R. Felton (Or.) 270
Cerebrovascular Disease, Changing Viewpoints in Neurology as Illustrated by Certain Aspects of, J. St. C. Elkington (Or.) 251
Changing Viewpoints in Neurology as Illustrated by Certain Aspects of Cerebrovascular Disease, J. St. C. Elkington (Or.) 251
Cholangiography, Routine, During Operation for Gallstones, C. C. Smith and George A. Faris (Or.) 332
Cholecystitis, Radiographic Signs of Acute Suppurative, James J. McCort (Or.) 139
Clinico-Pathological Conference 278
Communications, Privileged, Physician-Patient Confidences in California, Howard Hassard (Or.) 411
Confidences, Physician-Patient, in California—Privileged Communications, Howard Hassard (Or.) 411
Congenital Heart Disease—Comments Regarding Incidence and Natural History, Forrest H. Adams (Or.) .. 213
Coronary Artery Disease, Anticoagulant Drug Treatment of, John Martin Askey (Or.) 197
Convergent Strabismus, Nonsurgical Treatment of, Robert L. Tour (Or.) 429
Convergent Strabismus, Surgical Treatment of, Floyd M. Bond (Or.) 433
Cretinism, Sporadic Goitrous, H. David Mosier (Or.) 32
Criteria for Mitral Valvotomy—Roentgen Evidence in Pulmonary Hypertension, Richard S. Cosby and George Jacobson (Or.) 217
Crushing Injury of the Hand—Prevention of Ischemic Contracture, Carl E. Nemethi (Or.) 207

D

(Dbi) Phenethylbiguanide in Diabetic Patients—Clinical and Metabolic Effect, Thomas H. Lambert (Or.) 257
Dermatitis, Algerian Ivy, A California Disease, Clete S. Dorsey (CR) 155
Dermatomyositis Treated with Sodium Ethylenediamine-tetra-acetate (Sodium Versenate®, and Sequestrene®), R. C. Pollock (CR) 284
Diabetic Patients, Clinical and Metabolic Effects of Phenethylbiguanide (Dbi) in, Thomas H. Lambert (Or.) 257
Diabetic Retinopathy, Flavonoid Therapy in, Paul M. Brickley, Byron L. Gifford and Casimir A. Domz (Or.) 45
Diagnosis and Treatment of Joint Tuberculosis, Raymond M. Wallerius (Or.) 134
Disaster, Medical Preparedness for, Justin J. Stein (Or.) 353
Disaster Planning in Support Areas—Frank F. Schade (Or.) 160
Disease, Hodgkin's, A Report of Two Cases of More Than Twenty Years' Duration, George S. Sharp and Frank C. Binkley (CR) 227
Diseases, Tuberculous, The, Originating from Different Species of Acid-Fast Bacilli, Emil Bogen, Seymour Froman and Drake Will (Or.) 117
Duodenum, Stomach and, Benign Peptic Ulceration of the, An Appraisal of a Means of Treatment, Subtotal Gastric Resection (for), Edwin G. Clausen and Robert J. Jake (Or.) 407

E

Electromyography in Strabismus, Edward Tamler, Arthur Jampolsky, and Elwin Marg (Or.) 437
Emphysema, Mediastinal, John E. Summers (Or.) 340
Endoscopic Fulguration, A Simple Suction Adjunct for, Bruce L. Odou and Eugene R. Odou (Or.) 269
Enzymes, Serum, Variations of Enzyme Activity in Diseases of Muscle, Laurens P. White, Denise Russell and Barbara Maxon (Or.) 1
Epidemiology of Tetanus in California, A Review of 232 Cases, Philip K. Condit (Or.) 318
Esophageal Hiatal Hernia—Some Aspects of Surgical Treatment, Orville F. Grimes (Or.) 39
Executive Director (H. Hassard) (CMA) 60

F

Fever, Rheumatic, in College Students, Alfred F. Goggio (Or.) 151
Flavonoid Therapy in Diabetic Retinopathy, Paul M. Brickley, Byron L. Gifford and Casimir A. Domz (Or.) 45
Forand's Needle (Ed.) 288
Foster, Paul D., New President-Elect (CMA) 238
Fulguration, Endoscopic, A Simple Suction Adjunct for, Bruce L. Odou and Eugene R. Odou (Or.) 269
Fusion, Para-Articular, of the Proximal Interphalangeal Joint of the Hand, Bernard J. Drury (Or.) 37
Future of California Physicians' Service, Dwight L. Wilbur (Ed.) 357

G

Gallstones, Routine Cholangiography During Operation for, C. C. Smith and George A. Faris (Or.) 332
Gastric Resection, Subtotal, An Appraisal of a Means of Treatment of Benign Peptic Ulceration of the Stomach and Duodenum, Edwin G. Clausen and Robert J. Jake (Or.) 407
Gland, Parotid, The, A Reinterpretation of Its Anatomy, N. John Wilde (Or.) 17
Gonad Irradiation, Reduction of, in Pediatric Diagnosis, Harry A. Bishop, Milo Webber and Bernard J. O'Loughlin (Or.) 20
Gynecology, Adjunctive Use of a New Tranquilizer, Oxanamide (Quiactin®), in, Robert B. Woodhull (Or.) 275

H

Hand, Crushing Injury of the, Prevention of Ischemic Contracture, Carl E. Nemethi (Or.) 207
Hand, Impalement Injuries of the, Repair of Damage from Broken Bean Poles, Stanley E. Monroe (Or.) 339
Hand, Para-Articular Fusion of the Proximal Interphalangeal Joint of the, Bernard J. Drury (Or.) 37
(Hassard, Howard) CMA Executive Director (CMA) 60
Health Appraisal, Periodic, William C. Mumler and John L. Benton (Or.) 222
Heart Disease, Congenital, Comments Regarding Incidence and Natural History, Forrest H. Adams (Or.) .. 213
Heart Disease in Transport Workers, J. N. Morris and P. A. B. Raffle (LE re Possible Relationship of Occupational Stress to Clinical Coronary Heart Disease, Rosenman and Friedman, Sept. 1958) (LE) 168
Reply, Ray H. Rosenman and Meyer Friedman 170
Hernia, Esophageal Hiatal, Some Aspects of Surgical Treatment, Orville F. Grimes (Or.) 39
Herpetic Keratitis, Surgical Treatment of, Max Fine (Or.) 121
Hiatal Hernia, Esophageal, Some Aspects of Surgical Treatment, Orville F. Grimes (Or.) 39
High Pressure Patent Ductus Arteriosus, A Report of 3 Cases, Jerome Harold Kay, Robert M. Anderson, John E. Meihaus and Reuben Lewis (CR) 164
Hodgkin's Disease: A Report of Two Cases of More Than Twenty Years' Duration, George S. Sharp and Frank C. Binkley (CR) 227
Hosmer, Matthew N.—New CMA Secretary (CMA) 289
Hospital, Private General, Experiences of an Rh Committee (in), Bruce B. Rolf (Or.) 419
House of Delegates Agenda (CMA) 75
House of Delegates Transactions, CMA (CMA) 358
Hyperplasia of Brunner's Glands, Maurice L. van der Reis, Leo van der Reis and B. Vicas (CR) 162
Hypertension, Pulmonary, Roentgen Evidence in, Criteria for Mitral Valvotomy, Richard S. Cosby and George Jacobson (Or.) 217
Hypertrophic Pyloric Stenosis, Steven L. Gans (Or.) 345
Hypophysectomy for Palliation of Breast Cancer—With Especial Reference to Surgical Technique, Norman L. Cobb and William B. Scoville (Or.) 261

I

Impalement Injuries of the Hand—Repair of Damage from Broken Bean Poles, Stanley E. Monroe (Or.) 339
Infections, Serious Human, Due to Bacilli of the Arizona Group, Daniel Krag and Dudley B. Shean (CR) 230
Injuries of the Hand, Impalement—Repair of Damage from Broken Bean Poles, Stanley E. Monroe (Or.) 339
Injury, Single, Can a, Cause Cancer?, Arden R. Hedge (Or.) 55
Insemination, Donor, A Review of 440 Cases, John O. Haman (Or.) 130
Interstitial Pneumonia—A Pathologic Concept, Robert Wright (Or.) 14
Intestinal Obstruction, Late Postoperative, Angelo M. May (Or.) 328
Irradiation, Gonad, Reduction of, in Pediatric Diagnosis, Harry A. Bishop, Milo Webber and Bernard J. O'Loughlin (Or.) 20
Is Suicide Preventable?, Ralph B. Elias (Or.) 128
Ischemic Contracture, Prevention of, Crushing Injury of the Hand, Carl E. Nemethi (Or.) 207
Itching, Treatment of, A Preliminary Report on Results with a New Oral Antipruritic (Temaril®), Charles S. Lincoln, Jr., Ray C. Nordstrom and Elmer E. Batts (Or.) 126
Ivy, Algerian, Dermatitis, A California Disease, Clete S. Dorsey (CR) 155

J

Jet Air Travel, Medical Aspects of Commercial, M. Frederick Leeds (Or.) 273
Joint Tuberculosis, Diagnosis and Treatment of, Raymond M. Wallerius (Or.) 134

K

Keratitis, Herpetic, Surgical Treatment of, Max Fine (Or.) 121

L

Late Postoperative Intestinal Obstruction, Angelo M. May (Or.) 328

M

MD-Plan 65 (Medical Care for Aged) (Ed.) 445
Mammaplasty, A New Simplified Method of, George Bankoff (Or.) 349
Marriage Problems—Dealing with Them in Private Practice, Isidore W. Ruskin (Or.) 144
Marshall, Alastair J.—British GP Interview 294
Mediastinal Emphysema, John E. Summers (Or.) 340
Medical Aspects of Commercial Jet Air Travel, M. Frederick Leeds (Or.) 273
Medical Assistants Association, California, What Is It? (I) 397
Medical Care for the Aged (Ed.) 167
Medical Care for "Over 65," C.P.S. Plan (CMA) 448
Medical Examinations, Periodic, Disease Detection and Health Promotion, Rodney R. Beard (Or.) 426
Medical Examinations—When Required by Law (I) 400
Medical Preparedness for Disaster, Justin J. Stein (Or.) 353
Mental Health Services Program, California Community, Background and Status After One Year, The Short-Doyle Act, Alfred Auerback (Or.) 335
Mental Hygiene Director, Daniel Blain (I) 399
Mental Retardation, Preventive Aspects of, Thomas L. Nelson and Wylda Hammond (Or.) 148
Methocarbamol (Robaxin®) in Orthopedics, Use of, William B. Lewis (Or.) 26
Mortality in a Veterans Administration Hospital Over a Ten-Year Period, Operating Room Deaths, An Analysis of, Phyllis F. Shroff (Or.) 9
Mr. Forand's Needle (Ed.) 288
Myocardial Infarction, Acute, Survival in, Factors Observed in 318 Patients, Edward E. Harnagel, Vaclav V. Jelinek, Andon A. Andonian and Clifford W. Ulrich (Or.) 264

N

Neurology, Changing Viewpoints in, as Illustrated by Certain Aspects of Cerebrovascular Disease, J. St. C. Elkington (Or.) 251
Neurosis, Nonverbal Treatment of, Techniques for General Practice, Charles H. Batten (Or.) 202
New CMA Secretary (Matthew N. Hosmer) (CMA) 289

New Mental Hygiene Director (Daniel Blain) (I) 399
New Simplified Method of Mammaplasty, George Bankoff (Or.) 349
Nonsurgical Treatment of Convergent Strabismus, Robert L. Tour (Or.) 429
Nonverbal Treatment of Neurosis—Techniques for General Practice, Charles H. Batten (Or.) 202

O

Occlusion, Cerebral Vascular, Angiographic Diagnosis (of), Stanley B. Reich, Joseph Levitin and Leland R. Felton (Or.) 270
(Occupational Stress, Relationship Between and Clinical Heart Disease, Rosenman and Friedman, Sept. 1958) Heart Disease in Transport Workers, J. N. Morris and P. A. B. Raffle (LE) 168
Reply, Ray H. Rosenman and Meyer Friedman 170
Operating Room Deaths—An Analysis of Mortality in a Veterans Administration Hospital Over a Ten-Year Period, Phyllis F. Schroff (Or.) 9
Orthopedics, Use of Methocarbamol (Robaxin®) in, William B. Lewis (Or.) 26
Oxanamide (Quiactin®)—Adjunctive Use of a New Tranquilizer in Gynecology, Robert B. Woodhull (Or.) 275

P

Palliation of Breast Cancer, Hypophysectomy for (with) Especial Reference to Surgical Technique, Norman L. Cobb and William B. Scoville (Or.) 261
Para-Articular Fusion of the Proximal Interphalangeal Joint of the Hand, Bernard J. Drury (Or.) 37
Parotid Gland—A Reinterpretation of Its Anatomy, N. John Wilde (Or.) 17
Pediatric Diagnosis, Reduction of Gonad Irradiation in, Harry A. Bishop, Milo Webber and Bernard J. O'Loughlin (Or.) 20
Peptic Ulceration, Benign, of the Stomach and Duodenum, an Appraisal of a Means of Treatment, Subtotal Gastric Resection (for), Edwin G. Clausen and Robert J. Jake (Or.) 407
Periodic Health Appraisal, William C. Mumler and John L. Benton (Or.) 222
Periodic Medical Examinations—Disease Detection and Health Promotion, Rodney R. Beard (Or.) 426
Phenethylbiguanide (DBI) in Diabetic Patients, Clinical and Metabolic Effects, Thomas H. Lambert (Or.) 257
Physician-Patient Confidences in California, Privileged Communications, Howard Hassard (Or.) 411
Pneumonia, Interstitial—A Pathologic Concept, Robert Wright (Or.) 14
President-Elect, Paul D. Foster (CMA) 238
President's Address, Rules of Civility, Francis E. West (Or.) 315
Preventive Aspects of Mental Retardation, Thomas L. Nelson and Wylda Hammond (Or.) 148
Privileged Communications — Physician-Patient Confidences in California, Howard Hassard (Or.) 411
Proposed Constitutional Amendment (CMA) 386
Pseudocancer, Self-healing, of the Skin, Lawrence M. Nelson (Or.) 49
Psychotherapy of Adolescents, Joseph D. Teicher (Or.) 29
Psychotherapy of Alcoholics—The Concept of Psychotherapeutic Motivation, Keith S. Ditman, Allen J. Enelow and Craig MacAndrew (Or.) 138
Pyloric Stenosis, Hypertrophic, Steven L. Gans 345

Q

Q Fever Manifested by Anemia and Hepatitis—Report of a Case, George K. Hurwitz and Joseph C. McLaughlin (CR) 234
Quiactin®, *see Oxanamide* 275

R

Radiographic Signs of Acute Suppurative Cholecystitis, James J. McCort (Or.) 139
Reduction of Gonad Irradiation in Pediatric Diagnosis, Harry A. Bishop, Milo Webber and Bernard J. O'Loughlin (Or.) 20
Rehabilitation Program, Alcoholic, California's, A Preliminary Report, Alfred Auerback (Or.) 224
Renal Failure, Acute, Manifesting as Water- and Salt-Losing Insufficiency, Aaron J. Fink (CR) 441
Retardation, Mental, Preventive Aspects of, Thomas L. Nelson and Wylda Hammond (Or.) 148
Retinopathy, Diabetic, Flavonoid Therapy in, Paul M. Brickley, Byron L. Gifford and Casimir A. Domz (Or.) 45
Rh Committee, Experiences of, in a Private General Hospital, Bruce B. Rolf (Or.) 419
Rheumatic Fever in College Students, Alfred F. Goggio (Or.) 151
(Robaxin®) Methocarbamol, the Use of, in Orthopedics, William B. Lewis (Or.) 26
Roentgen Evidence in Pulmonary Hypertension, Criteria for Mitral Valvotomy, Richard S. Cosby and George Jacobson (Or.) 217
Routine Cholangiography During Operation for Gallstones, C. C. Smith and George A. Faris (Or.) 332
Rules of Civility—President's Address, Francis E. West (Or.) 315

S

Secretary, New CMA (Matthew N. Hosmer) (CMA) 289
Self-Healing Pseudocancer of the Skin, Lawrence M. Nelson (Or.) 49
Sequestrene®, *see Sodium Ethylenediamine-tetra-acetate* 284
Serious Human Infections Due to Bacilli of the Arizona Group, Daniel Krag and Dudley B. Shean (CR) 230
Serum Enzymes—Variations of Enzyme Activity in Diseases of Muscle, Laurens P. White, Denise Russell and Barbara Maxon (Or.) 1
Short-Doyle Act, The—California Community Mental Health Services Program: Background and Status After One Year, Alfred Auerback (Or.) 335
Simple Suction Adjunct for Endoscopic Fulguration, A, Bruce L. Odou and Eugene R. Odou (Or.) 269
Skin, Pseudocancer of the, Self-healing, Lawrence M. Nelson (Or.) 49
Sodium Ethylenediamine-tetra-acetate (Sodium Versenate® and Sequestrene®), Dermatomyositis Treated with, R. C. Pollock (CR) 284
Sodium Versenate®, *see Sodium Ethylenediamine-tetra-acetate* 284
Sporadic Goitrous Cretinism, H. David Mosier (Or.) 32
Stenosis, Hypertrophic Pyloric, Stephen L. Gans (Or.) 345
Stomach and Duodenum, Benign Peptic Ulceration of the, An Appraisal of a Means of Treatment, Subtotal Gastric Resection (for), Edwin G. Clausen and Robert J. Jake (Or.) 407
Strabismus, Convergent, Nonsurgical Treatment of, Robert L. Tour (Or.) 429

Strabismus, Convergent, Surgical Treatment of, Floyd M. Bond (Or.) ... 433
Strabismus, Electromyography in, Edward Tamler, Arthur Jampolsky, and Elwin Marg (Or.) ... 437
Subtotal Gastric Resection—An Appraisal of a Means of Treatment of Benign Peptic Ulceration of the Stomach and Duodenum, Edwin G. Clausen and Robert J. Jake (Or.) ... 407
Suicide, Is (It) Preventable?, Ralph B. Elias (Or.) ... 128
Support Areas, Disaster Planning in, Frank F. Schade (Or.) ... 160
Surgical Technique (of) Hypophysectomy for Palliation of Breast Cancer, Norman L. Cobb and William B. Scoville (Or.) ... 261
Surgical Treatment of Convergent Strabismus, Floyd M. Bond (Or.) ... 433
Surgical Treatment of Herpatic Keratitis, Max Fine (Or.) ... 121
Survey of CALIFORNIA MEDICINE (Ed.) ... 58
Survival in Acute Myocardial Infarction—Factors Observed in 318 Patients, Edward E. Harnagel, Vaclav V. Jelinek, Andon A. Andonian and Clifford W. Ulrich (Or.) ... 264

T

(Temaril®) Treatment of Itching—A Preliminary Report on Results, Charles S. Lincoln, Jr., Ray C. Nordstrom and Elmer E. Batts (Or.) ... 126
Tetanus—Prophylaxis and Treatment of the Disease, Donald E. Ross and J. J. Kraut (Or.) ... 322
Tetanus Immunization (Ed.) ... 356
Tetanus in California—Epidemiology and a Review of 232 Cases in California, Philip K. Condit (Or.) ... 318
Therapeutic Donor Insemination—A Review of 440 Cases, John O. Haman (Or.) ... 130
Tranquilizer, New, Adjunctive Use of, Oxanamide (Quiactin®), in Gynecology, Robert B. Woodhull (Or.) ... 275
Transactions of the (CMA) House of Delegates (CMA) ... 358
Travel, Commercial Jet Air, Medical Aspects of, M. Frederick Leeds (Or.) ... 273
Treatment of Itching—A Preliminary Report on Results with a New Oral Antipruritic (Temaril®), Charles S. Lincoln, Jr., Ray C. Nordstrom and Elmer E. Batts (Or.) ... 126
(Trimeprazine) Treatment of Itching—A Preliminary Report on Results, Charles S. Lincoln, Jr., Ray C. Nordstrom and Elmer E. Batts (Or.) ... 126
Tuberculous Diseases, The—Originating from Different Species of Acid-Fast Bacilli, Emil Bogen, Seymour Froman and Drake Will (Or.) ... 117
Twenty Years After (C.P.S. Anniversary) (Ed.) ... 236

U

Use of Methocarbamol (Robaxin®) in Orthopedics, William B. Lewis (Or.) ... 26

V

Valvotomy, Criteria for Mitral, Roentgen Evidence in Pulmonary Hypertension, Richard S. Cosby and George Jacobson (Or.) ... 217
Variations of Enzyme Activity in Diseases of Muscle, Serum Enzymes, Laurens P. White, Denise Russell and Barbara Maxon (Or.) ... 1
Vascular Occlusion, Cerebral, Angiographic Diagnosis (of), Stanley B. Reich, Joseph Levitin and Leland R. Felton (Or.) ... 270
Versenate®, Sodium, *see Sodium Ethylenediamine-tetraacetate* ... 284
Veterans Administration Hospital, Operating Room Deaths, An Analysis of Mortality, Over a Ten-Year Period, Phyllis F. Schroff (Or.) ... 9
Visualization of the Biliary Tract—Preoperative, Operative, and Postoperative Radiologic Investigation, C. Rollins Hanlon and C. Allen Wall (Or.) ... 422
Volition, Cardiac Arrest Through, C. M. McClure (CR) 440
Volvulus of the Cecum Occurring After Operation—Notes on Additional Etiological Factors and Therapy, Allan B. Wilkinson, Frank M. Morgan and Wilbur G. Rogers (CR) ... 283

W

What Is the California Medical Assistants Association? (I) ... 397
Work of an Rh Committee, The—Experiences in a Private General Hospital, Bruce B. Rolf (Or.) ... 419
Workmen's Compensation Act, Some Aspects of Interest to California Physicians, Whelan, Cox and Hassard ... 220

EDITORIALS

Cancer Control ... 446
Future of California Physicians' Service, The, Dwight L. Wilbur ... 357
MD-Plan 65 (Medical Care for Aged) ... 445
Medical Care for the Aged ... 167
Mr. Forand's Needle (Health Care for Aging) ... 288
Survey of CALIFORNIA MEDICINE, A ... 58
Tetanus Immunization ... 356
Twenty Years After (C.P.S. Anniversary) ... 236

CALIFORNIA MEDICAL ASSOCIATION

Council Meeting Minutes:
442nd Meeting, November 8, 1958 ... 172
443rd Meeting, December 13, 1958 ... 175
444th Meeting, January 10-11, 1959 ... 297
445th Meeting, February 21-25, 1959 ... 299
446th Meeting, February 25, 1959 ... 302
447th Meeting, March 14, 1959 ... 386
448th Meeting, April 11, 1959 ... 450
House of Delegates Transactions ... 358
Agenda, House of Delegates ... 75
Annual Reports ... 89
Are We Making the Same Mistakes British Doctors Made?—This British GP Thinks So ... 294
Biggest CMA Meeting ... 239
Care of the Aging—Report of a Special Committee on Aging ... 291
C.P.S. Medical Care Plan for "Over 65" ... 448
Executive Director, CMA ... 60
New CMA Secretary (Matthew N. Hosmer) ... 289
Paul D. Foster, New President-Elect ... 238
Proposed Constitutional Amendments ... 77
Proposed Constitutional Amendment ... 386

INFORMATION

Medical Examinations—When Required by Law 400
New Mental Hygiene Director (Daniel Blain) 399
What Is the California Medical Assistants Association? 397

BOOK REVIEWS

Advances in Electrocardiography, *Kossman* 192
Advances in Internal Medicine, Vol. IX, *Dock & Snapper* 73
Alcoholism and California—Related Statistics—1900-1956, *State Dept. of Public Health* 195
Annual Review of Medicine, Vol. 9, 1958, *Rytand & Creger* 74
Applied Physiology of the Eye, *Lyle & Lyle* 196
Atomic Medicine, 3rd Ed., *Behrens* 463
Atrial Arrhythmias, Digitalis and Potassium, *Lown & Levine* 196
Bacterial and Mycotic Infections of Man, *Dubos* 73
Birth of Normal Babies, *Strean* 402
Bone Tumors, Second Edition, *Lichtenstein* 311
Brain and Human Behavior, The, *Solomon et al* 73
Brain Tumors, *Zulch* 72
Breast Cancer, *Segaloff* 312
Callander's Surgical Anatomy, Fourth Edition, *Anson & Maddock* 192
Cardiac Arrest and Resuscitation, *Stephenson* 405
Chloromycetin (Chloramphenicol), *Woodward & Wisseman, Jr.* 250
Ciba Foundation Colloquia on Endocrinology, Volume 12, Hormone Production in Endocrine Tumours, *Wolstenholme & O'Connor* 191
Ciba Foundation Symposium, Neurological Basis of Behaviour 194
Clinical Epidemiology, *Paul* 403
Clinical Obstetrics and Gynecology, December 1958, Volume 1, Number 4, *Willson & Morton* 250
Clinical Radiology of Acute Abdominal Disorders, *Epstein* 193
Communicable Diseases, *Bloomfield* 74
Diabetes as a Way of Life, *Danowsky & Magee* 71
Dietary Prevention and Treatment of Heart Disease, *Gofman, et al* 74
Diseases of the Colon and Anorectum, Volumes One and Two, *Turell* 406
Doctor's Marital Guide for Patients, *Greenblat* 73
Drugs of Choice—1958-1959, *Modell* 71
Emergency Surgery, Seventh Edition, *Bailey* 406
Emergency Treatment and Management, Second Edition, *Flint, Jr.* 250
Emergency War Surgery, NATO Handbook, United States Department of Defense, *Berry* 312
Emotional Problems of Childhood, *Liebman* 249
Etiology and Treatment of Leukemia, *Burdette* 73
Forensic Medicine, *Simpson* 72
General Ophthalmology, *Vaughan, Cook & Asbury* 403
Gynecologic Radiography, Including Radiography of the Breast, *Dalsace & Garcia-Calderón* 406
Handbook of Medical Treatment, Sixth Edition, *Chatton et al* 195
Head Injuries, Mechanisms, Diagnosis and Management, *Gurdjian & Webster* 314
Hormone Production in Endocrine Tumors, *Ciba Foundation Colloquia on Endocrinology* 191
Intracardiac Phenomena, *Luisada & Liu* 313
Living with Your Allergy, *Feinberg* 72
Manual for the Aphasia Patient, *Longerich* 404
Medical Management of Cancer, *Diamond* 72
Modern Treatment Yearbook, 1958, *Wakeley* 313
Myasthenia Gravis, *Osserman* 402
NATO Handbook, Emergency War Surgery, United States Department of Defense, *Berry* 312
Neurological Basis of Behaviour, *Ciba Foundation Symposium* 194
Nutrition and Atherosclerosis, *Katz, Stamler & Pick* 404
Ophthalmic Plastic Surgery, 2nd Rev. Ed., *Fox* 72
Oral Surgery, *Thoma* 405
Pediatric Index, *Patton* 194
Penicillin, *Hirsh & Putnam* 404
Personality Change and Development, as Measured by the Projective Techniques, *Harrower* 313
Physical Examination of the Surgical Patient, Second Edition, *Dunphy & Botsford* 194
Poisoning, Second Edition, *von Oettingen* 192
Practice of Nuclear Medicine, The, *Blahd et al* 74
Principles and Practice of Medicine, A Textbook for Students and Doctors, *Davidson et al* 191
Problems of Addiction and Habituation, *Hoch & Zubin* 464
Progress in Cardiovascular Diseases, Vol. 1, No. 1, Cardiac Surgery, *Friedberg* 195
Progress in Radiation Therapy, *Buschke* 194
Psychosomatic Ophthalmology, *Schlaegel & Hoyt* 312
Rehabilitation Medicine, *Rusk et al* 196
Religious Doctrine and Medical Practice, *Barton* 404
Roots of Psychoanalysis and Psychotherapy, *Szurek* 314
Rorschach Test Diagnosis, a Textbook for Psychologists, Physicians and Teachers, *Bohm* 249
Sex and the Adolescent, A Guide for Young People and Their Parents, *Davis* 311
Sir Charles Bell—His Life and Times, *Gordon-Taylor & Walls* 195
Social Psychiatry in Action—A Therapeutic Community, *Wilmer* 196
Streptomycin and Dihydrostreptomycin, *Weinstein & Ehrenkranz* 404
Surface and Radiological Anatomy (For Students and General Practitioners), Fourth Edition, *Hamilton & Simon* 405
Systemic Ophthalmology, Second Edition, *Sorsby* 193
Texas Surgeon, *Atkinson* 403
Textbook of Psychology, A., *Hebb* 73
Therapeutic Exercise, *Licht* 191
To Work in the Vineyard of Surgery: The Reminiscenses of J. Collins Warren (1842-1927), *Churchill* 403
Treatment of Breast Tumors, *Pollack* 249
Treatment in Internal Medicine, *Hyman* 464
Tumors and Tumorous Conditions of the Bones and Joints, *Jaffe* 405
Tumors of the Lungs and Mediastinum, *Fried* 463
Ureterovesical Junction, The, *Hutch* 195
Waking Brain, The, *Magoun* 193
What We Do Know About Heart Attacks, *Gofman* 193

DEATHS

Alexander, Robert B., April 19, 1959 454
Arehart, Arthur A., January 2, 1959 240
Ashcroft, Felix E., December 30, 1958 454
Barrett, Gilbert Michael, January 10, 1959 240
Barrow, John Vincent, December 17, 1958 179
Beauchamp, Harry H., January 21, 1959 454
Birkenstock, Carl F., November 9, 1958 61
Bishop, Harry Arthur, September 24, 1958 179
Bost, Frederic Carroll, February 2, 1959 240
Bowns, William James, Jr., March 26, 1959 389
Boyce, Lee, March 12, 1959 389
Brandenburg, Kenneth C., March 10, 1959 389
Calvert, Edward Harrison, March 19, 1959 389
Cary, Raymond John, January 7, 1959 240
Cherwin, Nathan Hale, December 21, 1958 240
Clark, Ira Joseph, March 5, 1959 389
Clemens, Harry H., August 14, 1958 61
Conklin, James E., November 27, 1958 179
Cooley, Chester Lynn, January 22, 1959 240
Cox, J. Emit, December 28, 1958 179
Crowe, John Alexander, December 20, 1958 179
Darling, Herbert Henry, January 23, 1959 240
Dickson, Archibald John, January 11, 1959 240
Downs, Lawrence, February 18, 1959 303
Edison, Earl Maynard, February 20, 1959 389
Elliot, Robert E., January 17, 1959 303
Everingham, Sumner, March 4, 1959 389
Fagin, Joseph, December 19, 1958 179
Fairchild, Fred R., December 22, 1958 303
Flude, John M., February 9, 1959 303
Foote, Frederick S., November 9, 1958 61
Franklin, Earl A., February 14, 1959 303
Freyermuth, Otto George, January 19, 1959 240
Fritschi, Ulrich A., April 9, 1959 454
Gallivan, Thomas H., October 14, 1958 61
Gilbert, William Paul, August 7, 1958 61
Giovinco, Joseph Bivona, March 20, 1959 389
Glickman, Milton, October 7, 1958 61
Haire, Robert Donnell, Jr., January 12, 1959 240
Hane, Richard Lincoln, January 25, 1959 454
Herzog, George K., Sr., March 16, 1959 389
Hubbard, Milton E., December 24, 1958 179
Huggins, Benjamin H., December 20, 1958 179
Jameson, Jane, January 20, 1959 240
Jeans, Howard S., February 25, 1959 389
Johannesen, Robert Eastnor, April 2, 1959 454
Jones, Joseph Laurence, January 5, 1959 240
Keith, Charles F., November 5, 1958 61
Kilgore, Alson, May 20, 1959 453
Koch, George W., October 22, 1958 61
Koravko, Mstislav Klement, April 13, 1959 454
Kracaw, Forest C., April 6, 1959 454
La Mont, Wyant, February 7, 1959 303
Leach, William Otto, March 8, 1959 389
Leyda, Paul L., Jr., February 24, 1959 303
Long, John Bradley, April 9, 1959 454
Matousek, William J., November 21, 1958 61
Mayers, Morton M., November 20, 1958 61
McAllister, Oscar O. T., November 17, 1958 61
McCleave, Thomas Crooke, March 11, 1959 389
McGuire, Thomas Edward, March 16, 1959 389
McNeil, Donald, February 23, 1959 454
Mead, Chester Ira, February 11, 1959 303
Mendenhall, Arthur Junius, November 2, 1958 61
Mitchell, Charles Otis, November 23, 1958 61
Moore-Freshour, Ina, November 7, 1958 61
Munford, Raymond Hunter, April 15, 1959 454
Myers, Thomas, December 19, 1958 179
Nelson, Lorin Gordon, November 9, 1958 61
Nevin, John Lewis, April 7, 1959 454
Newell, Edward, April 21, 1959 454
Newson, Howard E., March 21, 1959 389
O'Connor, Robert Emmett, November 16, 1958 61
O'Donnell, Reynolds J., December 11, 1958 179
Osheroff, Samuel A., December 26, 1958 179
Portis, Richard A., November 4, 1958 61
Reeder, Thomas Pickins, Jr., February 26, 1959 303
Reis, Abilio G. DeSolva, February 3, 1959 240
Russell, Paul Livingston, November 17, 1958 61
Scheffel, Alfred Garland, February 13, 1959 303
Schoonmaker, Guy Daniels, January 14, 1959 240
Scott, Raymond Robert, December 1, 1958 454
Sekiyama, Isami, January, 1959 240
Seymon, Max Andre, November 1, 1958 61
Staniford, Kenneth J., January 25, 1959 240
Stern, Robert Leo, December 17, 1958 179
Stoughton, Arthur Volney, December 26, 1958 179
Taylor, J. Phyromm, December 29, 1958 240
Tuohy, Edward Boyce, January 12, 1959 240
Van Pelt, Clifford A., Jr., January 27, 1959 240
Watkins, Leon Harlan, October 9, 1958 179
Weller, Theodore W., December 10, 1958 179
Wayland, Clyde, December 27, 1958 179
Wilson, Gustave, December 3, 1958 240